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For the Southern Cabinet.

CHEMICAL COMBINATIONS—ANALYSIS OF SOILS.

Mr. Editor,—I frequently find information requested on the subjects of the following paper, which has been my inducement for making them the topic of a few cursory remarks.

Many have vague ideas of the components of the material substances of which we are formed, and by which we are surrounded. Persons are often deterred from particular inquiry into the sciences, by the apparent magnitude of the difficulties, and the numerous intricacies they present at the entrance. These obstacles are analogous to looming highlands, which appear to obstruct the traveller's way, and impede his further progress, but with resolution he advances, and ere he is sensible, the extent and richness of the scene shows him that he has already overcome a portion of the difficulty, and at least partially accomplished his object. In this as in all things "*ce n'est que le premier pas qui coute.*"

The various objects which surround us, and strike our senses, would appear to be a mixture of heterogeneous substances, of infinite complexity, but upon inquiry we are the more and more astonished at the fewness of the original materials, and the simplicity of the limited laws which govern their history. As far as we have knowledge, this tangible world is composed of about fifty-six, or fifty-seven, simple elements, or substances, each having peculiar and particular properties, which are throughout marked, constant, and invariable, and will be found in all parts of the world to act in a similar manner, when under like influences. These elements are not susceptible of annihilation, or re-production; they have been created once and forever. Variety is produced by the combination in different proportions of these simples, for instance: sulphur, or brimstone, is a simple substance, from which art has succeeded in producing nothing but sulphur, and is formed of insensibly small particles, or atoms of itself. Iron, copper, silver, lead, gold, are other examples. These simples, when they do combine, are found to unite according to fixed laws, which are far from being complicated. Thus an atom, or proportion of sulphur, will combine with an atom, or proportion of iron, and form a compound with properties differing from those of either of its constituents. Again, under other circumstances, two atoms of sulphur will combine with one atom of iron, and form another compound, differing alike from either of its constituents, or the other combination. These two substances combine in the two mentioned proportions only, and neither nature, or art, have produced examples of

their combinations in other proportions. Hence, a substance possesses properties differing, not only from the number of its elements, but also from their proportions.

These simples are æriform, liquid, solid, visible, or invisible, and have different specific gravities. Gases will sometimes combine and form solids—again liquids, or gases, according to the temperature. One atom of oxygen and two of hydrogen unite and form ice, water, or steam, at different temperatures. The combinations known as calomel, and corrosive sublimate, so different in their action upon the animal economy, are results of different proportions of mercury and chlorine. The transformation of farina, or starch, into sugar, alcohol, and ascetic acid, (or vinegar,) is simply a change in the relative proportions of the three sole constituents of all—oxygen, hydrogen, and carbon. The Emperor Napoleon was fond of the simple beverage, sugar and water. He remarked, when made from sugar in lump, particularly if permitted to dissolve itself, it made a perfectly clear solution, but if the sugar was pounded the liquid was turbid. He asked of Chaptal, (a chemist of celebrity,) an explanation, who replied that the three substances sugar, farina, and gum, though composed in different proportions of the same simples, were so nearly allied that the abrasion caused an approximation of the sugar, to the nature of the other two substances, and farina being insoluble, and gum less immediately so than sugar, the clouded appearance was caused by the suspension of the insoluble particles thus produced. The gas called carbonic acid, or fixed air, is a combination of five atoms of oxygen, and one atom of the well known substance carbon, which according to the arrangement of its particles presents the appearance of lamp-black, charcoal, and the crystallization diamond, all being susceptible of combustion, by which act they combine with oxygen, and produce the acid gas. Oxygen is found to combine in three proportions with iron, giving rise to compounds with distinct properties. Thus the magnetic oxide of iron, which occurs in the washes throughout this district, may be said almost to resist the action of acids, whilst the other oxides of the same substance combine with them with facility. Hence, the magnetic oxide is of less advantage in a soil than the combinations in other proportions, which correct acidity by saturation. In the fabrication of soap, if we place the carbonate of potash in contact with the grease, or oil, no soap will be formed, but if we previously divest the potash of its carbonic acid, (which is easily done with caustic lime,) the caustic potash produces a change in the proportions of the constituents of the grease, (oxygen, hydrogen, and carbon,) acids are generated, which combine with the alkali, and form the salt, soap. This informs us that if we fail to de-carbonise our lye, we loose such proportion of alkali as may not have been deprived of its carbonic acid, during combustion, or by other causes, or having been deprived, has re-absorbed that acid from the atmosphere.

These elements, when they combine, do not unite in all proportions, but one is found to be a simple multiple of the other. Thus one to one, one to two, one to three, one to four, one to five, and rarely ever beyond this number, and never in such proportions as one-seventh to one, or one-third to one-fifth, &c. &c. By reflecting upon these facts, and many more which might be here adduced, we shall realize the nature of atoms, their indivisibility, and the mathematical nicety in which substances chemically combine. This constitutes the basis of the Atomic

theory, from which chemical equivalents, or proportions, are deduced, enabling the manufacturing chemist to calculate, with the greatest exactness, the relative proportions of the different substances, he may wish to unite, to form the required product, and giving the analizer the power of deducing the unknown from the known.

These simple substances variously combined, and these combinations variously intermixed, cause the different appearances which are presented to our senses in the vegetable, animal, and inorganic world. By taking advantage of our knowledge of the properties which these simple substances possess, as well as those to which their combinations give rise, we can form a pretty just conclusion of what will be discovered by accurate chemical investigation. To illustrate—we know that all vegetable substances are formed of three simples, viz. oxygen, hydrogen, and carbon, and very rarely a fourth, nitrogen, which is found to exist in that product termed gluten, which may be extracted from the germ of wheat, to which add, the comparatively small proportion, of inorganic matter which is found in the ashes. Again, animal substances usually contain all the four first—I say usually, for there are exceptions to this as to all general rules, as grease or fat, (which is called the grossest part of the animal,) is closely allied to the vegetable oils, and formed of the same substances, neither containing the gas nitrogen;—therefore, so far as the constituents are considered, they do not differ. The properties of the substances which form the mineral kingdom, are not the less distinctly characterized, and by physical inspection with the aid of chemical tests, the operator is enabled to foretell all the constituents which will be found by accurate chemical research. This analysis may be said to commence from the time an object first arrests attention.

These facts may appear to some elementary, but I hope on that account not useless, and that they, therefore, may be pardoned by those to whom they are familiar, for the service they may be to others who have less acquaintance with the subject. They may furthermore be of some utility in enabling some of my readers, the better to comprehend, the one or two examples of analysis, which I shall now add.

I shall select for the first example, a mineral substance, in which we will suppose it desirable to ascertain the quantity of carbonate of lime. The commencement of this operation is its reduction to a powder, (which indeed is the first step in every case,) and this may be accomplished in a copper, or iron mortar afterwards passing it through a fine sieve. Then, by means of a small sensitive hand balance, weigh say ten grains; by selecting a decimal number the calculation will be rendered more easy. This should be placed in a small platina crucible, of a size adapted to the quantity, on a few ignited coals, and brought to that degree of heat when redness is just becoming visible. It should now be removed from the fire, allowed to cool, and re-weighed. By substracting the number thus obtained from ten, you have the humidity. You now return the powder to the crucible, put on the cover, re-place it on the fire and increase the temperature to a white heat, which should be maintained for about fifteen minutes. Suffer it to cool, and weigh. Subtract this from the last number, and it will give the quantity of carbonic acid driven off. It would be well now to ascertain by means of water, and acid, if this last operation has been effectual, and if it has not, it will of course be necessary to repeat the experiment on another equal quantity, till you have effected this end. Ten grains of the powder

should now be introduced into a small glass matrass,* (for these operations those of the capacity of a gill, or half-gill, will be found most convenient,) cover it with water, and add a few drops of muriatic acid, from time to time, keeping up the action till effervescence ceases. If the acid be added too rapidly, or too much at a time, the action will become so violent as to project a portion of the matter out of the mouth of the vase, in which case it will be necessary to re-commence the operation on another like portion. In order to prevent any loss, the safest way is to incline the vase, that the spray may strike the sides. Towards the termination of the operation, the action should be aided by a gentle heat, and any excess of acid should be driven off by evaporation. The solution should now be diluted by the addition of water, and the whole thrown upon a paper filter, (which will retain the insoluble residuum,) and water added till every thing soluble is washed away. In washing, it is better to allow the water previously added to pass through entirely, before replenishing. If the water be hot, the operation will be more expeditious. You may ascertain if this is accomplished by receiving a drop from time to time, on a piece of glass and drying it over the fire, or in the sun; the washing is completed if it dries without leaving a spot on the glass.

The filter containing the insoluble residuum, should now be carefully removed from its glass funnel, dried, and the matter separated, calcined, and weighed, or as it is scarcely possible to prevent loss in this way, it will probably be more accurate to calcine altogether, burn another filture of precisely the same size, and weigh the ashes, and make allowance for this in the weighing. To the filtered solution you now add lime water, until there ceases to be a precipitate. Lime being a strong base, will throw down bases of less strength. If no precipitate is produced by the lime-water, there is nothing in solution but lime, and the operation is terminated, and the quantity of lime may be ascertained by the difference between the weight of the insoluble residuum, and the powder which was deprived of its carbonic acid by calcination. But if there be a precipitate, the vase should be covered to prevent the absorption of carbonic acid, (which would unite with the lime and thus cause an error,) and when settled drawn off clear, by decanting, or by means of a small glass syphon, and the precipitate collected on a filter and washed. By drying, re-calcining, and weighing, and adding the weight of this precipitate to that of the insoluble residuum, and substracting it from the powder deprived of its carbonic acid, as before remarked, you have the quantity of lime.

By reference to a chemical, or mineralogical treatise, the composition of the carbonate of lime will be found given.—Now let A. = the quantity of lime in 100 parts of the carbonate of lime, B. = the quantity of carbonic acid, and C. = the quantity of lime ascertained by analysis, then the simple proportion A : B : : C : X = the quantity of carbonic acid necessary to saturate the quantity of lime found, which must be substracted from the loss by calcination. To recapitulate—your analysis will stand thus—

Water,
Carbonic acid,
Insoluble residuum (usually sand and argile,)

* A small vase, technically so called, much resembling a Florence flask. Those with flat bottoms are best.

Precipitate by lime water (usually magnesia, oxide of iron and alumine,)
Lime.

This mode is one of the most expeditious and easy that presents itself to my mind at this time. In this, as in all analysis, it is of course necessary that all the re-agents used should be pure, without which there can be no certainty or confidence in the results. If the muriatic acid should contain sulphuric acid, as it is likely to do, owing to the usual mode of manufacture, the insoluble residuum will contain the sulphate of lime, thus not only augmenting it at the expense of the lime, but also by the addition of the sulphuric acid. Manufacturers often make use of the chloride of lime to whiten their paper, which is frequently found to contain notable portions of that base, thus introduced, so much so as not unfrequently to produce effervescence, by the application of an acid. This substance would not fail to be dissolved, by the slight excess of acid unavoidable in manipulation and would be thrown down and add to the amount of the constituents. This, in an analysis where the filtrations are numerous, would cause error; to avoid which the paper should be digested in weak acid, and washed to free it from all extraneous substances previous to use. Water is another frequent source of inaccuracy, if it be not pure. Distilled water is at all times preferable, or rain water (not collected from dusty roofs.) Sometimes the water of our rivers evaporates without residuum, as I have found occasionally to be the case with that of the Schuylkill. The operator will find it to his advantage to ascertain, by tests, the purity of the water and re-agents previous to use.

I shall now endeavour to enumerate the modes of separation which I should practice, were I about to examine a substance in which the constituents were more numerous. The following example is one analogous to many soils:—Water,
Organic matter,
Carbonic acid,
Silex,
Alumine,
Oxide of iron,
Oxide of Manganese,
Lime,
Magnesia.

I shall premise by observing, that where analysis can be performed without the use of fixed alkalies or their salts, as re-agents, it is always preferable, owing to the difficulty, (necessarily connected with their properties,) of freeing a precipitate of their presence, which is more embarrassing in those which are gelatinous than others. The operation of getting rid of their presence is long and tedious, but necessary—as without it there would be inevitable error, more or less flagrant, as the manipulation is more or less perfect.

The water or humidity will be driven off by maintaining the powder at the temperature of boiling water some time. The organic matter by heating the substance to a red heat, in contact with the atmosphere, and occasionally stirring it to make the combustion more perfect—the carbonic acid by calcination. The solution should be made with muriatic acid. A few drops of nitric may be advantageous. The silex and argile, dosed together, as in the foregoing analysis, and separated afterwards by an attack in a silver crucible with caustic potash, or in one of

platina, with carbonate of potash. To the filtered solution you now add the carbonate of ammonia, drop by drop. The iron and alumine, (if there be any of the latter,) will be thrown down together, in which case they may be separated by potash. The seperation of these substances by the carbonate of ammonia is a nice operation, as the success of the experiment depends on the exact quantity of carbonate of ammonia added. The Manganese will be thrown down by the hydro-sulphate of ammonia. In this case you have the sulphuret of Manganese. If the quantity be small the sulphur may be dissipated by roasting, but if large it will be necessary to dissolve in nitric acid, and precipitate by a carbonate. The lime will be thrown down by the oxalate of ammonia, and the magnesia by the phosphate of ammonia. The phosphate of magnesia being slightly soluble, may give rise to error if this be not taken into consideration.

I am well aware that in manipulation, however perfect the description, nothing will compensate for the want of practice, and even were it my intention to describe all that was necessary to one possessed even of partial experience, the idea would be preposterous in an article like the present.

If I have erred in any of the foregoing statements, which, however, I do not think will be found to be the case, I hope it will be considered a sufficient palliative, when I state, that I write without having in my reach a note, or scientific volume, to which I can refer. C.

Abbeville District.

For the Southern Cabinet.

ON MAKING OF MANURES.

BY COLLETON.

Mr. Editor,—I am surprised and astonished at the improvement that is every day making in every branch of Agriculture by the Up-country planter, except that of the manuring system, which my experience has taught me ought to be the first object or of primary consideration on an up-country farm.

I cannot charge my neighbours with not knowing the advantages of manure, for it must be perceptible to the most careless observer. They all know it, and they all acknowledge it, yet, strange as it may appear, they all neglact it in a greater or less degree.

I have often been at a loss for a reason of this strange inconsistency, and have arrived at the following conclusion: The most of our Up-country planters have too much land, and they can and do make tolerable crops without manure. I have special reference to their Cotton crops. I know most of them manure part or all of their corn, but they do it with cotton seed, for which they deserve but little credit, as they are compelled to remove them out of their way, and the additional labour of applying them to the corn is very trifling.

I speak with a degree of confidence when I say, that within the circle of my knowledge, which embraces a considerable extent, that there is not one out of ten who plant eighty acres of cotton, that manures ten acres out of eighty. The reason of this I believe to be, as I stated above—they have too much land. Most of our Up-country planters plant from ten to fifteen acres of cotton to the hand. I feel confident from my own experience, when I say, if they would plant half of that number of acres, and manure them, the amount of their crops would be as much, or more, than they are now, or according to the present manner of culture. I state, from actual experience, when I say, that our Up-country or Pine-lands, when manured, will produce double the quantity of cotton. Perhaps it will be said, all this we freely admit and firmly believe, but how are we to make so much manure?———In the first place the making of manure must be a separate and distinct business, otherwise you will not be able to do it to advantage. Do not put it off for wet days or broken time. Too many have tried it in this way and have invariably failed.

Put so many negroes with waggons and mules to collect trash, and haul it into your cow-pens, stables, and hog-pens, and let the same hands haul it out. When it has been sufficiently trampled, two hands with a wagon and a pair of mules, can rake and haul six wagon-loads of trash per day; that would be eight hundred and eighty-four wagon-loads in six months, and every one hundred wagon-loads of trash will make two thousand bushels of manure after it has been in the cow-pens six months, as two thousand bushels of manure to every one hundred waggon loads of trash would be seventeen thousand two hundred and fifty bushels of manure to eight hundred and eighty-four wagon-loads of trash. Seventeen thousand two hundred and fifty bushels of manure will manure forty-three acres of cotton, allowing four hundred bushels to the acre. I will now appeal to the planter to say, whether his two hands, with his mules and wagon, could make more, or be employed more profitably; and he may value the manure at six cents per bushel. He will remember to take into consideration the annual improvement of his farm by pursuing this system of culture.

If the above is worthy of a place in your *Cabinet*, it is at your service.

Yours, respectfully, COLLETON.

July, 1840.

For the Southern Cabinet.

ON THE CULTIVATION OF PINE PLAINS.

Mr. Editor,—

"A Subscriber" in the March No. of the *Southern Cabinet*, under the head of PINE PLAINS, asked for information as to the best manner of tending his lands—the kinds of manure best adapted to them—the crops best suited to them—the best method of ploughing them, &c.; and an "Up-countryman," who professes to know something of the nature of soils, advises him, in the first place, to emigrate to the up-country—or, if

he does not choose to do so, to add one-half or two-thirds of clay to his soil. Perhaps, the "Up-countryman," who attaches so much value to clay, has some worn-out up-country lands to sell him, upon which nothing but clay remains, and I would advise the Pine-plain planter to hold on to his sand, or he may illustrate the truth of the old proverb, and "swap the devil for a witch."

It has been my fortune to cultivate lands where the clay is mixed with the surface, or lies but at little depth beneath it; but I have seen much sandy land in cultivation, and bestowed some attention upon the methods of tending it, and I hope to be able to give the planter on Pine planes more comfort than he has received from his friend from the up-country.

In the first place, I would advise the Pine-plain planter to get open, if he has not done so, three times as much land for Cotton as he can tend in one year, and twice as much land for corn, and adopt at once the system of resting his lands. When lands have been much injured by what the Pine-land planter has been pleased to term the "*skinning system*," but which might more properly, perhaps, be called the *gutting system*—or when the soil is of a light sandy nature, two years rest and one of tilth is better for Cotton; but as such lands usually after two years rest, grow up in fennel and broom grass, they should be fallowed early in the fall, (and ploughed the same way the Cotton beds are afterwards to run,) or listed away early in the winter, if they cannot be fallowed, which last method is far preferable, as it incorporates the vegetable matter ploughed under with the soil, and prevents the injury to the roots of the Cotton plant mixing with the coarse undecomposed matter in the list.

If this system is persevered in for some years, the soil must be very ungenial if it will not permit the ultimate system of one years cultivation and one of rest. I do not think that breaking up land for Cotton, in sandy lands at least, is beneficial any time after the first of December, but positively injurious, as the Cotton plant never grows off well when the tap-root can play about in a loose and porous bed.

The Pine-land planter's progress in improving his soil, will be greatly increased of course, if he will assist the system of rest by adding compost manure, or planting Pea-vines, to be ploughed under early in October, after the second year's rest. Above all, let me tell him, not to plant more than he can tend carefully in any season however adverse.

With respect to the corn-crop, have a change of land, and manure the part planted every year very highly. Six acres to the hand will, if well manured and carefully tended, be enough to support the hands and horses required to work the crop, and enough for the usual proportion about a plantation who eat all and work none. It may be said that six acres of corn is too small a crop on such land as that under consideration, and it may be so at first, but if the system I recommend be fully and fairly carried out, that number of acres will, in time, be more than sufficient.———He has been told to use mud and muck as manure, but mud about Pine-plains is thin and unfertilizing. Let me advise him to make all the manure with his horses and cattle that he can. Pine-straw is an excellent recipient for animal manures. If he can find oak-leaves convenient enough, I would say, put in the stable-yard and cow-pens a layer of Pine-straw two feet thick or more, just after the manure is hauled from the yards in the winter and spring, and after the crop is laid by continue to haul in oak-leaves on every wet day, (or take dry ones if

the wet do not occur often enough,) during the whole winter, and he will have, with his Cotton seed, enough manure for his Corn and some for his Cotton.

In offering this plain advice, let me add, that it is no sally of the imagination, but the result of some experience and information on the subject. I have been accurately informed that there is now in Sumter district a plantation of great value, which was once a barren Pine-plain such as "A Subscriber" describes his to be, which was bought up at twenty-five cents per acre, (and perhaps even less,) and now by dint of perseverance, rest, and manure, I am told cannot be purchased at twenty dollars an acre. In my own neighbourhood there is another instance, where a Pine-land plantation was sold many years ago for a mere trifle, and the former owner said, after foolishly parting from his birth-right for a mess of pottage, "Well, I have had the cream—I don't care who gets the bonny-clauber,"—and now at this moment there are several hundred acres of Corn growing on that very plantation, from which the cream had been skinned twenty-five years ago, which (notwithstanding the unpropitious season) will, I have no doubt, produce from twenty to thirty-five bushels per acre.

"A Subscriber" also asks for information about ploughing. Let him cultivate his Cotton with the *sweep*, with the right wing turned so as to throw up earth to the Cotton—and in Corn, break up the boxes deep with the old shovel, and afterwards use the sweep I have just described, until the Corn is made, and he will not injure it with deep ploughing.

In dry weather it is difficult to injure Corn with any kind of ploughing, but in wet weather deep ploughing in sandy land is often fatal to Corn, for the very obvious reason, that in dry weather as the roots of the Corn run down in search of moisture and are not easily cut, but in wet weather they play about near the surface and are greatly exposed to the plough.

"A Subscriber" also asks about orchards on Pine-plains. That is a small matter; and I know but little on the subject. COTTON.

Orange Parish.

AGRICULTURAL SURVEY CONTINUED.*

[CONTINUED FROM PAGE 389.]

HAVING given a general survey of this section of country, we will now enter somewhat more into details. The systems pursued by those who cultivate the swamp-lands, are similar; as well as by those who cultivate the high lands. There are differences in the details; but we can only mention a few, as we proceed on, for it would occupy too much of our limited space to enter into particulars. We shall select Col. Williams' plantation on the Great Pedee, as illustrating the practices of the planters

* In the last No. of our Survey, there are a number of typographical and gramatical errors, occasioned by our absence from the city, and never having seen the proof to correct them.

on river-swamp lands, and that of Gen. Gillespie's, that of the up-lands. We will commence with Col. Williams', which was the first we visited, and with the details of the management of which, we became better acquainted than with that of any other.

The soil of the river-swamp plantations we have already described. It is generally what may be called a sandy loam, becoming a clayey loam as you approach the high-lands. There are spots of clay, and sandy ridges, but these are not frequent. By far the largest portion is a fine black friable soil, about six inches deep, resting on a clayey substratum. The principal crops cultivated are cotton and corn—potatoes only in very small quantities; rye for early pasturage, and oats principally for turning under as manure.

COTTON, preparation of the land for, and culture of,—About one-half of the land intended for cotton is manured with compost taken from the cattle-pens, stables, &c. The balance required to make out the quantity needed, is taken from newly cleared grounds, or fields which have been rested one year, and the growth turned under, or which has been manured by the turning under of a crop of green oats. The oats sown for this purpose are put in, in the months of October and November, at the rate of one bushel and a half per acre, and the ground thrown into ridges of the width intended for cotton the succeeding year. By this operation the oats are covered. In July, (or as soon after, as other work necessary to be done will permit, sometimes not until late in August,) the oats are turned under, reversing the ridges, and burying them completely. In the spring following these ridges are again reversed, (at which time the oats are found to have entirely rotted,) and the beds formed. Occasionally, manure is used in addition to the green crop turned under, but this is not often done. When the oats are turned under late, the seeds having matured, there is another growth of oats, which with the weeds, form sometimes a pretty thick coating, all of which is of course turned under, or as is sometimes the case, listed down previous to reversing the beds. When the fields have been rested, all the growth, which is considerable, (for no cattle are permitted to pasture on them,) is listed under as early in the fall as practicable. If not done early it is preferred to turn it all under with the plough, so as to mix it more intimately with the soil. Gypsum has also been tried with decided success, the seeds merely wetted, rolled in it and planted.

Those fields which the year previous were in Cotton, and which it is intended to plant again with the same crop, are prepared by running a mould board plough twice in the centre of the alleys and forming as deep a furrough as possible, the bull tongue follows breaking up the soil still deeper. These furroughs are then filled with manure from the various pens. The beds are formed by the plough and dressed over with the hoe. The trenching plough (already described) is run on the top of the beds, making them smooth and forming the trenches, into which the seeds are scattered at the rate of two bushels per acre, and covered by the horse-rake. The beds are formed from four to six feet apart, and very wide at the base nearly meeting in the alleys.

The first working is done with the hoes going over and lightly shaving down the beds. This also makes them smooth and prepares them for the second operation, which is with the "scraper." The cotton is thinned at the first working, leaving a single stalk not nearer than eighteen inches and not more than three feet. The after culture is performed

nearly altogether with the skimmer, which shaves the surface of the beds, throwing a little earth up to the cotton. The hoe follows, merely going over the tops of the beds, and those spots where the skimmer has not worked well, or cannot approach. A skimmer does three acres per diem. An able bodied hand will do from fifty to one hundred rows of two hundred and ten feet in length, according to the grassiness, &c. of the fields. The fields are gone over from every ten to fifteen days. The *Petit Gulf* seed, as we have elsewhere said, alone is planted. The yield from this is an average of one thousand pounds of cotton per acre. From thirty-five acres Col. William's has gathered two thousand one hundred and ninety-six pounds per acre. The pickings are usually accomplished in from one to three times going over. The gining is done on one of the plantations by water power—on the others by animals. Houses for the reception of the cotton are built in several parts of the different plantations, especially when distant from the main settlements.

Corn.—In the rotation adapted by Col. W., corn usually follows cotton. The furroughs are run across the beds, and so deep as to bring the bottom of them to a level with the alleys. The corn is planted exactly where these furroughs intersect the old beds, and where there is a quantity of manure remaining from that used for the cotton. Sometimes additional manure is applied. This most generally (if not always) is cotton seed, (whose vegetative powers have first been destroyed,) in quantities of about a pint, which is put in the holes. If the fields have been resting, the whole ground is broken up completely and turned over. It is then laid off five by six, and the corn planted, and when up thinned down to from two to three stalks. The first working is performed with the bull-tongue plough, by which the ground is thoroughly and deeply broken up. It is afterwards cultivated quite shallow, with the scraper, which is run both ways. When laid by, it receives a slight hilling, but not before. The usual product is thirty bushels per acre, and sixty bushels have been gathered. We have already described the variety of corn cultivated by Col. Williams, which he has brought to its present productive state by long and careful selection. In producing many ears, it resembles the "Baden," but the stalks, ears, and grain, are infinitely larger, and in this respect differs not materially from the corn usually cultivated in the State, but in productiveness far exceeding. We counted on a dried stalk seven large shucks, (the corn had been taken out to plant.) This corn is not purely of one sort, but seems to be a mixture of several, for among it you can find all of the varieties of grain from pure flint to Tuscarora. The ears differ also in size, having from eight to sixteen rows The grains are usually of good size. We hope the Colonel will carry his selection still further, and get rid of all the small sized ears, unless he discovers that these are the most productive—then of course get rid of the other. That which is best should be retained, and the rest discarded, for they cannot all be equally good. A fact was mentioned to us, which was certainly unknown, not only to ourselves, but to all the planters of *this* section of the State, with whom we have conversed on the subject. It is, that the *first* suckers from corn, if left undisturbed, will always produce ears *on* the stalk, similar to the parent stalk, and not an abortion on the ends, as we so often see in our fields; and in confirmation of this, we were shown four dried stalks, which had grown in such close proximity, as to have all the appearance of being the parent stalk and suckers. It was

out of the ground, and divested of soil, but the mass of roots was so thick that we could not ascertain positively, without separating and thus destroying the specimen, (which we were not willing to do,) whether they proceeded from one or more roots—the appearance decidedly was, that the whole sprang from one. We counted on each of these stalks two *large* ears, with no greater difference between them than might be found between adjoining stalks. Col. Williams first mentioned the fact to us, and in conversing on the subject before one of his overseers, (who had, by-the-bye, been with him a number of years,) the latter observed that he thought every person knew it. The abortions we have on our suckers are attributed to their not being the original or first, but such as had been thrown up a second time by the plant, which is said not to produce ears at the sides, but merely a few scattering grains on the tops of the stalks. We have mentioned these facts to many of our planters in this section of country. None have made observations sufficiently accurate, to speak positively on the subject, though the general opinion is, that such is not the case in the lower country. *Is it not one of the peculiarities of the corn cultivated by Col. Williams?* We would be glad to receive communications on the subject from some of our friends.

Oats are principally cultivated for turning under as manure, and seldom more is saved than will aaswer for seed the ensuing season, unless there appears likely to be a deficiency in the corn crop. When this is apprehended, as much is gathered in as it is supposed will meet it, which is done, not by cutting and thrashing in the usual way; but the hands are sent in and merely strip off the grains from the stalk, leaving the latter standing. In this way each hand gathers sixteen bushels per diem, and on one occasion twenty-four were gathered. This is supposed to be fully equal to cutting down and thrashing it out; and there is this advantage, that the stubble is left on the field to be turned under as manure.

Rye.—This is ouly sown for early pasturage, and as there is generally more sown than can be eaten down, a considerable quantity runs to seed, on which the hogs are turned as soon as it is ripe.

Peas are very little attended to, a small quantity being planted near the settlements, into which the cows are turned after harvesting the crop. None are picked except for seed.

Sweet Potatoes.—Not cultivated as a crop. A small quantity is usually cultivated, which is given to the negroes as a luxury, and never forming any portion of their week's allowance.

Hay.—It is seldom that any attention is paid to the making of hay, as it is never considered worth the attention of the planter, it being too costly to send it to market, and there being usually as many corn blades or leaves as will suffice for the use of the plantation, corn being planted in large quantities. We still, however, hope to see it yet supplying the place of Northern hay in our market. When the ground is broken up in May and June, the growth of crab or crop grass is very heavy, being four to five feet high. Col. Williams had never ascertained the weight per acre, but promised to do so the present season, and inform us of the result.

Manures, and their application.—We were much gratified on ascertaining the great attention paid to the collection and application of manures in this section of country. Every where we visited, this

branch of Agriculture appeared to be deemed of primary importance. We were too late to behold the large accumulations on the different plantations, but we saw preparations making for the collection of a new supply for the succeeding crops. The plan usually is, to cart the corn and cotton stalks into the pens as opportunity offers, and constantly to accumulate in them, pine and oak leaves on which the cattle are nightly penned. This compost, when applied to cotton, is spread in the furroughs at the rate of an ox-cart-load for every fifty yards square. To corn it is applied in the hill.

Cotton seed is highly prised here as elsewhere, as a manure for corn. The practice varies. By some it is applied under the corn, but most generally above, in quantities of from one to two pints to the hill. That which is applied under the corn gives the most luxuriant growth, whilst young, and hence is apt to mislead the planter; but when earing time arrives, it is found not to be equal to that to which it has beeen applied later and on the hill. It is highly probable that a large portion of its good qualities become exhausted before the corn requires it at earing time, and that it will be more efficient if applied later—still, however, it appears to us, that placed on the top of the hill, and left so long exposed to the action of the weather, must also exhaust its valuable properties. Would it not, therefore, be better to have the first furroughs run near, (throwing the earth from the corn, the cotton seed placed in these furroughs opposite the hills on each side, the earth returned by the plough and the seed covered. The whole strength of the manure would, in this manner, be retained; and when we recollect that the valuable properties of cotton seed reside almost entirely, if not wholly, in the oil it contains, and that this is easily and rapidly dissipated by heat, we may, perhaps, see the utility of removing it from the immediate and direct influence of the sun, and interposing a medium which will absorb and retain the gasses as they are disengaged. There are probably no salts of consequence to sink, and the loss sustained by this species of manure, is by evaporation not infiltration. Cotton-seed is also applied to cotton, (sometimes mixed with other manures,) being spread in the furroughs at the rate of from thirty to forty bushels per acre. A curious circumstance connected with the application of cotton-seed as manure, was mentioned to us by Col. Williams. Many years ago he manufactured oil from cotton-seed, and applied the refuse as manure. He found that when the cake was used in pieces larger than about four inches square to the hill, the plants were decidedly injured. In one instance it was applied at the rate of between three and four hundred bushels per acre. Not only the crop was destroyed by the application, but even the fertility of the soil for many years.

Gypsum has been used with decided success, as a manure for cotton; but the difficulty in obtaining it, has prevented its more general use. The seeds, in all the experiments, were merely rolled in the plaister. In one field in which every alternate five rows were thus manured, the growth differed so much in color as to give a ribband-like appearance to it. There are some experiments making this year, which we hope to have reported in future numbers of this journal.

In clearing new land, Col. Williams does not permit any thing to be burned, but buries as much as possible. The larger logs, which cannot be so readily got rid of, are piled up in different darts of the field,

and when they commence rotting, they are moved every year or two, thus manuring the portions of field where they happen to be.

Two otner modes of improving his soil, have been resorted to by the Col. with decided success. The first is by altering their textures by the intermixture of sand with clay and clay with sand. The improvement has been decided and great. Clayey soil is more improved by the carting on and admixture of sand, than is sand by the admixture of clay. Considerable quantities of ground has, in this way, been improved. The other mode has been by under or sub-soil draining. This has been resorted to with great effect, and we saw several acres of swampy marsh ground, which in its original state, produced only rushes and the usual growth of such lands, entirely reclaimed, as dry as any other part of the field, and judging from the old stalks of corn, it had produced a better crop. This piece was the first attempt made by Col. Williams, with which he has been so thorougly satisfied that he has under-drained all the land in his extensive fields which require it.

Cattle.—These, as we mentioned in a former number, are of a mixed character, no pains having been taken to preserve the different breeds pure. They consist of various admixtures of Devon, Durham, and Herefordshire and native cattle. Some of the Ayreshire breed have lately been introduced.

[TO BE CONTINUED.]

For the Southern Cabinet.

GREEN CROPS AS A MANURE.

Mr. Editor,—

Located as my farm is, so near town, and therefore, having limited pasturage, it is impossible to keep through the winter, except at great expense, a stock of cattle of sufficient number to furnish any considerable quantity of manure; and you may well judge of the labor and expense of hauling manure from the city to my farm, when for each load a team will have to travel from six to eight miles—consequently, I have been led to think very seriously on the subject of *green crops* as a manure, and to make some few experiments on the subject.

At present I shall confine myself to my experiment with the sweet-potato, a root decidedly more valuable, in my opinion, to the Southern States, than any other which can be cultivated. The results I have hastily thrown together.—

Early in October, I selected a piece of ground containing one acre and a half, from which a crop of hay had been just taken, and which had been deeply ploughed over in order to turn under as much of the stubble as possible. I sowed down this piece of ground with rye, at the rate of six pecks to the acre, and immediately harrowed it in. About the

first of April, the rye having attained an average height of two and two and a half feet, it was listed down, and forty-four horse-cart loads of compost manure from the cattle-pen were spread to the acre on the list, and the ground bedded and planted with cut brimstone potatoes. They came up beautifully, but owing to the excessively wet season which ensued, they became very grassy, and it was with considerable difficulty that the crop was at length cleaned and laid by. I commenced digging them about the first of August for market; they then turned out one bushel basket to the task-row of one hundred and five feet. On the first of September, I saw one bushel and a half dug to the row. On the 11th, two bushels and one peck, and on the 15th, four rows were dug, from which ten bushels were gathered, making two bushels and a half to the row, or two hundred and ten bushels to the acre, and I do believe they will reach three bushels, unless we have an early frost. This is the result of my second year's experiment. Before using green manure, I could never make a crop of roots which would pay the expense of planting, working, and gathering, although planted on the same kind of land and attended in the same manner. My potatoes have been, and are still exposed for sale in the markets daily, and I think equal in size any that I have seen this year. As the season is at hand for sowing rye, I trust you will be able to induce some of your friends to try the experiment, and communicate the result. This year I shall endeavor to test the value of rye with some other crops.

I think it judicious to add one other remark for the use of those who may be disposed to try the experiment. In my experience, the superiority of Southern rye-seed over the Northern, has been fully developed. The Southern rye continues to *grow up* steadily all the winter like oats, whereas the Northern will remain spreading on the ground, and not shoot up until February. Should you feel disposed, you may make what use of this communication you think proper.

I am very respectfully,

Your most obed't serv't,

CHAS. WM. SIMONS.

Charleston Neck, Sept. 18th, 1840.

LUCERNE.

As we have expected, and as it deserves, this plant is attracting more of the public attention.—This is the result of the merits of the plant itself, and a growing disposition among agriculturists to diversify their crops, more than they have done heretofore, and especially to make, as it is their obvious interest to do, better provision in the way of *grasses* and *roots*.

A very sensible writer in a late number of the Farmer's Cabinet, who is justly impressed with the great value of *lucerne*, and who has evidently been a close observer of its character and habits, makes in regard to its cultivation the following remarks, which we are happy to transfer to our columns, believing that a very large proportion of the region of country

in which the "Farmer" circulates most freely, is well adapted to the growth of this plant, and much in need of what it so fairly promises to supply.

My experience in raising this astonishing crop has been pretty extensive, and as I have long been convinced that it is peculiarly suitable to many parts of this country, I would detail a mode in the culture, which, in suitable situations, and under favourable circumstsnces, would, I am convinced, be attended with perfect success.

The land designed for it should be summer-fallowed, the weeds being carefully gathered after every ploughing, and not a moment should be lost in bringing forward as many crops of seed-weeds as possible, by frequent ploughings and harrowings, turning them down as fast as they come. Before the last ploughing, a covering of well-rotted manure should be spread on the land, and this being turned in, the seed, twelve or fourteen pound per acre, should be sown, broadcast, in August or September, unaccompanied with any crop, and be immediately rolled in. In the middle and southern states there would be no danger of its being injured by the winter cold, provided it be protected by the usual quantity of snow, and although the weeds, which might still remain in the soil, may spring up with the lucerne, yet as they would be prevented from growing in the winter, that crop would shoot earlier in the spring than they, and would soon out-top and overgrow them; while four or five cuttings of the lucerne during the next summer, would prevent these weeds from obtaining even a chance of success.

It is a mistaken idea that lucerne requires a rich soil: this is by no means the fact—indeed, I have known several attempts to raise it on such fail, in conscquence, I think, of this very circumstance; but a *suitable* soil is quite necessary, and what that is, is not sometimes easily definably beforehand; but experiments on a small scale will soon point them out. The *sub-soil* for this crop is of much more importance than the *surface*, and the most prolific crops have been obtained from soils supposed too barren to produce any profitable yield whatever. Ashes form an excellent top-dressing for lucerne, as they contain no seeds of weeds, and this is a circumstance of incalculable importance to its future well being: all other manures should be applied during the frosts of winter, for before the seeds of the weeds, which might be contained in them, can vegetate in the spring, the lucerne has started, and will then keep the lead: and when the crop has taken full possession of the soil, nothing appears more tenacious of life, or equal to cope with it, especially during a season of drought, when all other vegetation has disappeared from the face of the earth; then, I have often known it to shoot away at the rate of two inches in height every twenty-four hours. It has been the custom in some places, to raise the crop on a seed-bed, and transplant the roots, but this is changing the nature of the plant, for its peculiar characteristic—a tap-rooted plant—is thus destroyed; and however much it might thereafter flourish on good soils, it is not so fitted to *pump up*, from the depth of twelve or fourteen feet, moisture sufficient to sustain a crop of eleven tons per acre, during the hottest season of the year; nor is it, after that, so well able to cope with the weeds, as its strength is never so great as when its roots are deep, and forms a woody crown about three inches in diameter, bidding defiance even to the plough-share, and seeming to gain strength from the roughest treatment.

Nor is the very general practice of drilling the seed, and keeping the rows clear of weeds by the hoe, at all to be recommended; it is thus made to flourish, but it is at the cost of too much labour and expense; nor have I ever known a hoed crop at all to be compared with very many that I have seen broadcast, and which had been raised with little expense or labour. The observation, at page 258, vol. 3, of the [Farmer's] Cabinet, that unless the lucerne crop is sown in drills, and kept clear by hoeing, it will never answer to the farmer, is erroneous—nothing can be farther from the fact—thick sowing in the autumn or late summer on a clean and suitable soil, will render quite unnecessary drilling and hoeing; and will insure larger crops than can be obtained by any other mode of management.

Lucerne has been denominated an impatient crop, but on soils when suitable, nothing succeeds so well, or with less trouble; the seeds start in a very few days, and the growth of the plants is at first as decided and rapid as the common red clover; but it must be admitted that after this, it seems ready to give way to a crop of weeds, and the most promising prospect is often destroyed in a few days. But to those who are acquainted with its habits, the cultivation is neither difficult or hazardous; and when it once decides the question "to grow, or not to grow," in the affirmative, there is no crop on earth that can at all keep pace with it; and it is then a crop for life, or thereabouts. The best crops which I ever knew, were those which grow on the sea-shore, not two feet from high water mark—nay, I have known it grow and flourish on the sea-beach, overflown by every spring tide, without suffering the least injury from it. Those crops grew on white sand, with not a particle of earth to be seen in its composition, and there were, of course, no weeds to impede its growth; but, at the depth of several feet, this bed of sand was found resting upon a substance of fine light mould, into which the roots had penetrated, and produced crops which were truly astonishing in their bulk and vigour; and upon these fields it had been customary to tether cows during the whole summer, for ages, without manure, and yet no diminution of its strength was ever dreamt of. During the whole of the winter, not a blade of lucerne was to be seen, the roots had all been covered by a light coat of sand, which had been blown up from the beach: this protected the crop from the frosts; and very early in the spring, the shoots of lucerne would be found penetrating it in all directions, like asparagus plants, and in a few days they would spread over the surface like a carpet, furnishing, in about the space of two weeks, excellent food for cattle of every description, and upon which hogs would fatten, fit for slaughter; it being remarkable that these last, after masticating even the woody stalks of the plant, would not eject any portion of it, but swallow the whole. VIR.

May 28th, 1840.

For the Southern Cabinet.

ON THE FORMATION OF SULPHATE OF LIME,

IN REPLY TO "W. L:"—BY C.

Mr. Editor,—I observe, in your August No., that one of your correspondents, signing himself "W. L." has made some observations on the mode, which I suggested, in the last May No., for the formation of the sulphate of lime, from the decomposition of the pyritus sulphuret of iron, in which he thinks he has discovered error. Unfortunately I am without any authority to which I can refer, or apparatus for experimenting, either of which would enable me to assert positive facts, and thus place the matter beyond further dispute.—But let us see if reason will not bear me out in what I have stated. To the best of my remembrance, the generation of free sulphuric acid from the decomposition of the sulphuret of iron, is a well substantiated fact, and is in effect admitted by the gentleman when he says, "by long exposure to the atmosphere, however, it would become partly acid, and then be disposed to form a small quantity of sulphate of lime, but," he continues "altogether too inconsiderable in amount to be of any utility in agriculture." Now the sulphate of the per oxide of iron cannot exist without excess of acid, and accordingly as that excess of acid would be saturated by the decomposition of the carbonate of lime, (and the formation of the sulphate of lime,) corresponding proportions of the sulphate of the per oxide of iron would be decomposed to supply the excess of acid necessary. The action once commenced I cannot see any termination short of entire decomposition, though other salts might be produced.

Again, when we consider that the per oxide of iron is one of the weakest, if not the most so of all the bases, and that carbonic acid forms the weakest of all salts, and that the sulphate of the per oxide of iron, (for it resolves itself into this—the sulphate of the protoxide of iron not existing for any length of time in contact with the atmosphere without the absorption of oxygen,) being, as it always is, acid and a weak compound, and known to decompose almost spontaneously, is it not surprising, that when placed in contact with the carbonate of lime, and that at a sensibly elevated temperature, it should not form the sulphate of lime? But the gentleman has stated that these two salts can exist in contact without decomposition.

Your correspondent acknowledges it to be true, that by exposure of the sulphuret of iron to the influence of the atmosphere, oxidation, (or the sulphate of iron,) results. It is equally true that if the proto sulphuret of iron decomposes, heat is evolved; and if there be a mixture of the two sulphurets, (viz. proto, and deuto,) in any considerable quantity, one atom of the sulphur contained in the deuto sulphuret, would be ignited, and the heat of the mass from sensible, will become apparent, and finally elevated above that degree necessary for the separation of the carbonic acid combined with the lime, and instead of limestone we should have lime, when the gentleman admits that the decomposition of the sulphate of iron would be perfect.

He, however, goes on to make the query, whether the oxide of iron contained in the compound, would not be an objection to its employment, "it having been ascertained," he says, "by the experience of centuries,

that soils containing a large quantity of this oxide, are not favourable for agriculture." Now, it remains to be determined, what the gentleman understands by a "*large quantity*,"—for, considering the comparatively small quantity of gypsum that is used in agriculture, if the oxide of iron, mixed with the sulphate, was quadruple in amount to the latter, I cannot imagine that its application would be deleterious. I do not say that oxide of iron is essential to fertility, but I have yet to know of a fertile soil that is free from it, and should not apprehend the slighest injury from the quantity mentioned. Indeed, I do not think it proven that the oxide of iron is not, to a certain extent, an advantageous addition, and that particularly to a soil containing free oxalic acid—though, to-be-sure, a soil composed *entirely*, or even in a great measure, of oxide of iron, must necessarily be "totally barren."

I feel grateful to the gentleman for his remarks, as they give me an opportunity of perfecting my former suggestion, and placing the decomposition beyond a doubt, without adding much to the trouble and expense. Let the sulphuret be the proto, or deuto, sulphuret, marcasite, grey, or white pyrites, so that it be a combinatian of sulphur and iron. When mixed with the carbonate, or if your correspondent prefers, lime, place it upon a layer of wood, or faggots, to which set fire, and the heat generated will overcome the apprehended difficulty of decomposing the sulphuret, and without experience is greatly at fault, the sulphate of lime will be the result.

I remain, Sir,
Respectfully, yours, C.

Pendleton, September, 1840.

AGRICULTURAL IMPLEMENTS.

BY THE EDITOR.

On our recent excursion to the North, we visited many manufactories and depositories of agricultural and horticultural implements. We found a great variety, many of them new—some of which had proven useful and a number which were useless or superseded by other and better ones. We wish it were in our power to give a description of a number of those which it is desirable to introduce among us; but we could not make ourselves intelligible without engravings of each, and we took no drawings of the smaller implements. A few, however, we will here introduce to the notice of our planters. There was one thing which struck us, (and it is with somewhat of chagrin we mention it,) which was, that the ploughs and implements, especially the former, intended for the Southern market, were most generally made of inferior metal and materials. They were low priced, and of course could not be made otherwise; but the enquiry naturally arises, whence is this?—simply because the Southern planters require *cheap* articles, forgetting that, that which was nominally cheap at first, might prove very dear in the end; and we appeal to most of our planters, whether they have not found it so with respect to cheap

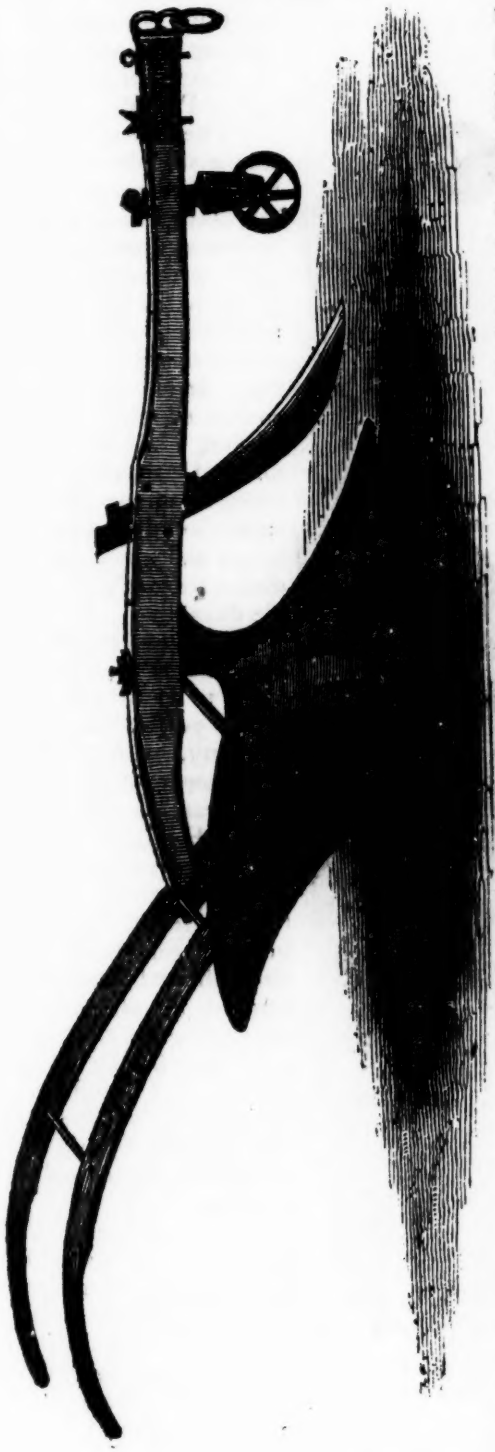
ploughs; on this point we can give them a hint which may save a few dollars. The castings of these ploughs are made from inferior iron, old castings, &c.: they have, of course, little tenacity, and are easily broken. The wooden work also is made of inferior stuff, very often refuse. In some of the depositories we were shown ploughs intended for the Southern market, which were very little more than half the price of those of the same size, intended for the use of the neighbouring farmers, and when we inquired the reason why such inferior articles were manufactured for the South, we were pithily told, that none but cheap ploughs could be sold at the South; and we were compelled to admit, in a great measure, that this was so, knowing the great partiality our planters have for cheap implements. But we hope that this will not be the case long. Let the article be examined carefully, and a fair remuneration be given for those which are really good, and we will soon have only those which are good. Our Northern friends will manufacture those which will the most readily sell, and let it be to their interest to furnish us with good implements, and we will have them in abundance; and truly it is wretched economy, in order to save a few dollars at first, to purchase a plough or other instrument, which will endure but for a short time, and then be worthless, whereas by the expenditure of a small sum more, a better instrument would be obtained, and one which would last many years.

Of all the manufactories we visited, we were more pleased with that of Messrs. RUGGLES, NOURSE & MASON, of Worcester, (Mass.,) than any other. We were fortunate in meeting the two former gentlemen at home, and were by them taken over the whole establishment—had the various machinery used in their operations not only explained to us, but put into operation, in some instances, for our special inspection. Their establishment is very extensive, but is principally confined to the manufacturing of ploughs and cultivators, though they also manufacture a few other horticultural and agricultural implements, such as hoes, rakes, transplanters, &c. We were careful in our inspection of the materials used, and have every reason to be satisfied that the castings were very superior to those usually sent out to the South. The ploughs we particularly admired, and judging not only from the certificates and premiums taken by them, at the various fairs and cattle-shows: but from actual inspection, we were of opinion that they were decidedly the best we had come across, and with this impression we ordered a number to be sent to our Reposity, No. 81 East-Bay, where they can be seen and compared with those from other manufactories.

Before describing them, we will premise that the whole of the wooden work is brought into shape and manufactured by machinery. The propelling power is water. The plough beam is first sawn into shape by a small up-right saw, somewhat likc a veneering saw; it is then taken to a bench, where it is planed by machinery—from thence it is taken to another, where the exact shape is given, while it is made at the same time smooth by knives revolving rapidly on a wheel. The tenants (2) are now sawn by horizontal circular saws, while another, acting vertically, cuts off the part not wanted, which is flung aside by a steel spring. In fact, the whole, from the time the rough stick is first brought in until it is finished and fitted together, is done by machinery, even to the boring of the holes and making of the mortices. This gives great exactness and accuracy te every part, and no difficulty occurs in fitting the different parts together, which is a consideraele advantage, inasmuch as when

sent to a distance, and any portion requires repair, it can be sent and fitted at once to its place—every beam, every tenant, every mortice, and, in fact, every part of every implement being made by pattern and with proportions preserved accurately by machinery, which could not well be the case when manufactured by hand. It was our intention to have given an extended account of this establishment, and had taken notes for that purpose, but our limits will not permit us to do so, and at the same time fulfil the object we set out with; and we prefer, therefore, confining ourselves to a description of two of their ploughs, and a few other implements, which we met with there and elsewhere. We avail ourselves of the observations and description contained in their circular; and as the plough is an implement of primary importance to the planter, we hope that we will not be considered as giving undue space to it.—

GREEN SWARD PLOUGH.



"Experience has taught every scientific and practical farmer, that the Cast Iron Ploughs most generally in use are quite too short and their mould-boards much too concave to accomplish their work with any degree of perfection. These defects, with many others less apparent, had been suffered to remain so long that they were considered by many as beyond the hope of remedy; we are confident, however, that we have succeeded in completely remedying them, and at the same time have greatly improved the general construction of the Plough. Some of the most important alterations made by us are the following:

"We have added much length to the entire PLOUGH, and formed the face of the mould-board upon the principle of "*straight lines*," from where the furrow slice is received upon the mould-board to where it leaves it, and from every point transversely; which form gives more fullness to the breast and middle of the mould-board, and enables it to take up the furrow slice with the greatest ease, bearing it equally and lightly over its whole surface, turning it over with the least possible bending, or twisting, and preserves it flat, smooth and unbroken, while at the same time it is subject to much less friction.

"To the heel of the Landside we have added length, to secure steadiness of movement, and to prevent the inclination of the Plough to run from land, caused by the constant pressure of the furrow slice on the face of the mould-board. Having thus decreased the pressure on the mould-board, by increasing the length of it, and by the straight line form, and by lengthening the heel of the Land-side to keep the direction of the Plough straight forward, we have acquired the Centre of Draft directly under the bolt that connects the Plough and beam; thus enabling us to place the beam on a line with the Landside; avoiding all indirect or angling motion, and securing much strength to the whole Plough.

HILL-SIDE PLOUGH.

"The base of the Landside is slightly concave, so that it bears upon the bottom of the furrow but a few inches at each end, which ends are chill-hardened, giving to the Landside durability, equal to that of the mould-board. We have also carried the standard connected with the beam, several inches further forward, securing great strength to the beam and safety to the share and point, and the point being *chill-hardened* gives it double durability.

"By these several improvements the Plough is made to do as much, and more *perfect* work than formerly, with a much less power of draft, and more ease to the ploughman. Having made several improvements in the materials, mode of connecting the several parts, and in their proportions, much strength and durability is insured, all of which we would describe and explain more fully but for the feeebleness and insufficiency of language to convey precise and adequate ideas of complicated forms and proportions." * * *

"It is estimated that there are from six to ten tons of vegetable matter in most soils, per acre, which, when decomposed constitutes a rich fertilizing dressing equal to the best manure. Every one knows,

or ought to know, that to produce a chemical decomposition of this vegetable matter, it should be turned under and excluded from the atmospheric air, which would dry up the moisture and carry off the gasses necessary to fermentation and decomposition. For this purpose the furrowslices should be taken up and turned over by the plough without being broken or cracked, and laid closely and compactly side by side. The more perfectly that is done, the more perfect and rapid is the decomposition, and the more fertilizing its effects. Most cast iron ploughs are too short and concave to do this. They break and crumble the furrow slice, and the fertilizing gasses arising from decomposition escape, and one half or more of the useful effect is lost.

"Many cast iron ploughs are made to *cut under* too much at the land side, giving to the furrow slice a sharp angle or edge extending far under the land. When the slice is raised to a perpendicular, or two or three inches beyond, it stands on a projecting edge or angle, which inclines it to fall back again into the furrow. Hence the necessity of a broad wing to the mould-board to push it farther over: which with the greater pressure of the short, concave mould-board against the furrow slice, tending to shove it endwise before the plough, crippling and breaking it, greatly increases the necessary power of draught, and ruins the work. This resistance at the hinder part of the short, concave, broad-winged mould-board, brings the *centre* of resistance farther from the land-side, even past the middle of the furrow, and renders it necessary to incline the beam over far from land, to bring the power of draught to correspond. A more injudicious form could scarcely be given to a plough. One of its great defects is, that in raising the slice its lower edge must either be lifted against the land which inclines over it, or it must be moved by the plough bodily from land, to enable it to be raised; either of which requires much power, and necessarily breaks the slice.

"The true practical principle is, to make the plough to cut under but very little—just enough to permit the slice to rise freely, and when turned over, to form a close joint with the preceding slice without riding it. The principle is accurately and judiciously preserved in the improved ploughs. The centre of resistance is within two inches of the landside, which shows how little resistance there is on the mould-board, and how slight the friction. The plough requires very little power beyond what is necessary to cut out the furrow slice."

The plate represents the largest but one;—those of less size are of course without the coulter and wheel.

The Hill-side Plough, of which the second plate will convey some idea, is one of those instruments which we think worthy of being more generally introduced among us. On broken and hilly ground they can be used with great advantage. They are made by the same manufacturers, and the same "objects and principles" as are set forth in the preceding descriptions and explanations of the Plough, are kept in view in its construction.—

"These Ploughs are much approved of by those who have used them. The ploughman instantly shifts the mould-board and share from one side to the other so as turn a furrow either way. By this means the furrow slice may be always turned down hill in going either way, the team going and returning on the same side of the land. They are much used on level grounds, where they have several advantages over the common plough, leaving no dead or back furrows, ploughing nearer to, and turning the earth from the fences, stumps, &c. and saving much time and travel of the team in sweeping round the ends of lands and finishing up with short furrows."

In a conversation with a farmer whom we met in one of the rooms, he stated that he had made considerable use of this Plough, and was highly pleased with the execution of the work done, and the facility with which the ground could be got over.

Of the "Long worked Common Plough," Messrs. R. N. & M. manufacture seven sizes; and of the "Side Hill or Swivel Plough," four sizes. We ordered out four sizes of the former and one of the latter, which are now at our Repository. It would extend this article too far to give the various extracts from different reports relative to these Ploughs. Suffice it to say, that they have taken many deplomas, medals, and premiums, at the various shows and fairs where they have been exhibited.

[TO BE CONTINUED.]

DON'T KILL YOUR BEES.

The bee and silk-worm are almost the only insects permanently useful to man, and it has always been a source of regret that the rich stores of the first could not in ordinary cases be obtained without the destruction of the owner. This difficulty can now be obviated in an easy manner.

Mr. Cotton lately read before the Ashmolean Society at Oxford some notices on bees, and his first position was—"never kill a bee." The bee owner has in the *fungus maximus*, or common puff ball, a powerful instrument ready to his hands, by which he is able to adopt a more humane and profitable mode of treatment. The smoke of this fungus, when dried so as to hold fire, has a stupifying effect on bees, and renders them as harmless as brimstone does, without any of its deadly effects. By means of this, weak swarms, which would not live through the winter, may be united to strong stocks. Mr. Cotton stated it as a fact, borne out by experiment, that a hive thus doubled will not consume more honey in the winter than a stock in its natural state. This was discovered by a Swiss pastor, De Gelior. The additional heat seems to serve instead of additional food, to keep up the vitality of the half torpid bees. He recommends a cold, dry, dark room, the colder the better, as the best winter quarters for bees. They will consume less honey than if left on their summer stands, and will not be weakened by the loss of thousands, which tempted out by the premature warmth of some early spring day, are caught by the cold winds, fall to the ground and never rise again. *Dryness* however is essential; and he described the principle of ventilation, or proper airing of the hives in summer, as the most valuable improvement in bee keeping.

Every farmer should keep bees; a few swarms to furnish honey for his own use if no more. They cost little forage wherever the wild flowers grow, have no ideas of distinction in landed property, and furnish the individual who has a taste for studying the habits of insects, or observing the wonders of that power we call instinct, an ample field of surprise and gratification.

PLANTATION GARDENS.

BY THE EDITOR.

[CONTINUED FROM PAGE 487.]

TURNIPS.

These, like cabbages, arrive at their greatest perfection during the autumn and winter, and are more generally cultivated on our plantations than any other vegetable. The varieties are numerous, but from these may be selected as best for our purpose, the Early Dutch, Red-top, Early Stone, White, Red and Green-topped Norfolks, and Dales' hybrid, also Ruta Baga, which is perhaps superior to them all, either for the table or for cattle. For this last we have given directions in a separate section, and will now confine ourselves to the common varieties. The Early Dutch and Red-top Turnips, are equally good and are the earliest varieties cultivated. The Norfolks are also excellent varieties, but come in much later.

The usual course of culture on our plantations, has been to cow-pen a piece of ground, to sow the seed broad-cast and rake them in—after which, very little more is ever done. It is seldom that they are introduced into the garden, and receive that attention which is bestowod on other vegetables, yet even with this management we have seen as fine roots raised as have been produced by any other course, and we ascribe it, mainly, to the quantity of urine with which the soil is fertilized, by the cattle being penned on it, and which is in a great measure lost to us, in consequence of the injudicious course we pursue in collecting and preserving our manures. Were our management better, the same number of cattle would afford sufficient manure in the same space of time, for three or four times the quantity of ground; and although, therefore, the practice is successful, yet we cannot but consider it as slovenly and wasteful, *conducted as it usually is, on most plantations.* There can be no doubt but that it can be so managed as to produce the best results with the least possible waste of manure, but to pen cattle on a piece of land, and to permit it to remain with all the dung and soil, saturated with the urine of the cattle, exposed to the influence of the sun and atmosphere, is, to say the least, injudicious. The better plan undoubtedly would be to plough the whole under and sow the seed as soon after the removal of the cattle as possible. But whatever may be said, either for or against this plan, it is not one which can be adopted in the garden, and should it be determined to sow the Turnips there, some other must be resorted to.

The Early Dutch, Red-top, and Stone Turnips, are as well cultivated on level surfaces, if not better, than on ridglets, but in England, the ridge system is preferred for the Norfolk, and other field varieties. Whatever course may be pursued, it will be the best to use manure that is partly decomposed. The young Turnips require nourishment from the very first, and if this be scantily furnished them, (which must be the case if only long manure be used,) they will continue weak, perhaps be overcome by the weeds, and seldom produce a large crop. Should it be intended to cultivate them on a level surface, the manure should be first spread over the ground, ploughed under, and the surfaee made fine with the harrow. If the soil is clayey, it will require several ploughings to bring it to the requisite tilth, but this kind of soil is not to be recommended if any other can be had—a sandy loam is perhaps the best, and the nearer the soil approaches to this, the better will it be fitted for the culture of this vegetable. If the ridge system be preferred, let furrows be run as near as possible to each other with the plough, the manure spread in them, and the earth formed into ridglets over it. On the level surface they may be sown either broadcast or in drills, from twelve to eighteen inches apart; these drills can be expeditiously made by using a piece of oak scantling of the requisite length, into which a number of teeth similar to those of a rake (only a little broader,)

are inserted; a pair of shafts should be attached for the horse to draw by, which should be so made as to give it as little play as possible. Handles will also be necessary to enable the boy to keep it steady, and to take it out of the ground when turning. By this instrument a large number of drills may be made in a very short time—the seeds should be sown as soon after as possible.

But whether sown on a level surface or ridglets, broad-cast or in drills, care must be taken that the seeds be evenly and thinly scattered over the surface, and this can only be accomplished by using a very large quantity of dry ashes or sand, which separating the seeds, enables the sower to distribute them according to his wishes. If sown on ridglets the seed may be covered with a rake, or a number of twigs tied together in the form of a broom. If sown on a level surface, the harrow may be used for this purpose, taking care to fix a number of bushes underneath so as to raise it so high that the teeth may not enter the soil, at the same time let these be so thick as to pass over the whole surface; for the harrow is used now merely as a frame to fix the bushes or twigs to, and it is by these only that the covering ought to be done. Should there be a roller on the plantation, it ought to be passed over the ground, which will press the earth close to the seeds and cause them to vegetate much more regularly and earlier than they would otherwise do. If the seeds are fresh, the plants will appear in the course of a week, and as soon as they are large enough to be handled, they ought to be thinned out from four to six inches apart, which will be sufficient for the first thinniug—as soon as they prodnce bulbs of one or two inches diameter, they may be again thinned to about twelve inches, at which distance they are finally to remain. The young Turnips now taken up can be used, and will be found very delicate. The after culture consists in keeping them free from weeds, and the soil well pulverized—this can only be effected by the hoe, when sown broad-cast, when in drills, the space between can be cultivated with the two-tined cultivator, and the hoe only used around the plants, where it will be in requisition but for a short time. If sown on ridglets, the plough must be used, throwing the earth from the plants, and then returning it, as directed for cabbages. As to the time of sowing, we recommend that a few be sown in the month of August, for a first crop, but even these are in some measure precarious, and the main crop ought not to be put in before September: a successional one may be sown in October, and in case of necessity, even in November. If English seeds can be procured, let some be sown in December,* and they will furnish excellent and tender roots, when all others have become woody and unfit for the table. Those from English seed do not produce seed the first spring after, (if sown in December,) but when old will become woody and rot. Should turnips be wanted late in the spring, some may be sown in February, March, and April, but later than this they will not succeed, snd even April is rather late for them.

CARROTS, PARSNIPS, BEETS AND SALSAFY.

The culture of these being so similar, that that which is proper for the one, will answer for the others also. Being tap-rooted plants, they require a deep, rich soil, and if possible, such ought to be selected for them—if there be none such, it will be proper to sow the seeds on ridglets, which having all the top soil collected together, affords an artificial depth, which will be found highly useful. It is best to sow these seeds on ground which has been highly manured for some other crop; fresh or long manure does not answer for them, especially if it be mixed generally with the soil: the effect is, that the roots will in most cases be small and forked. It sometimes however happens, that no such ground is vacant. In this case, let the compartment intended for the roots, be deeply ploughed, and trenches made; into these let *rotted* manure be spread, and the earth formed into ridges over this, as high as possible, and on these sow the seed. *Care should be taken that all the manure be buried at the bottom of the trench*, for should any mix with the soil, it may impede or divert the roots in

* These will require protection should there be any very cold weather, whilst they are young, especially when just coming up.

their downward course. No fear need be entertained that too great an interval will be obtained between the tops of the ridges and the manure. If it be eighteen inches, it will not be one inch too much: for the young plants send their roots down to an almost incredible depth. in search of food, should nothing intervene to obstruct their progress, even before they are of the size of a quill. Should this plan be adopted, the course of culture recommended for the Ruta Baga should be followed, but if level surfaces be preferred, the two-tined cultivator may be used. It is important in the cultivation of these vegetables, that the soil should be kept pulverized to a considerable depth.

All of these vegetables may be sown for general winter crops in September, and with a greater chance of success than if sown earlier; should, however, a few be wanted, they may be sown in August, but must be protected from the sun. The beets, moreover, are liable to the attacks of the grass-hoppers and grub-worms, which prove very destructive at this season, and it is rare that many plants can be obtained from a planting in August. Should it, however, be successful, roots may be obtained in Novemb'r and Decemb'r, and throughout the rest of the winter. Beets planted in September will be fit for use in January, and be very large and fine in the spring of the year. Another crop should be sown in February or March, and successional ones as late as May, but there is considerable difficulty in obtaining them from later plantings than these. We would recommend the turnip-rooted beet as decidedly the best adapted both to our soil, climate, and the course of culture recommended by us.

Carrots should also be sown in September and October for general winter crops, and if protected whilst young, they may be sown at any time during the winter. The spring crops should be sown in February and March. If English seed can be obtained, this last sowing should be with them, as they will remain a year without running to seed, which is not the case with those raised from American seed. Parsnips and salsafy can be sown at any time in which carrots can, but parnips do not withstand the heat quite as well, and therefore can seldom be procured in any perfection during summer. The treatment and culture is the same as that recommended for beets and carrots.

With one remark we will close. All of these plants should be thinned out early. The carrots need not in the first instance be more than three inches apart, and when they have grown to the size of an half inch diameter, they may be again thinned, and those now drawn may be used. The same course may be pursued with the salsafy, but beets and parsnips require more room—they should be thinned out at once from eight to twelve inches distance. The turnip-rooted beet and the salsafy may be transplanted to fill up vacancies, or into new compartments, but the carrots and parsnips do not succeed well when transplanted.

PEAS.

This most delightful vegetable requires no recommendatory notice from us to bring it into general use, for so well is it known, and so highly estimated, that there are few gardens which have not a liberal share of ground allotted for its culture; but the great extent necessary to grow it on, compared with other vegetables, has always limited its culture where inter-croping has not been understood or practiced, and very often the quantity grown is not equal to the demand, or some other vegetable is excluded, which need not be under judicious management. In a small garden, inter-croping must be resorted to, but this necessity can seldom exist on a plantation, where ground in abundance is always at command, and there the crop of peas should never be mixed up with any other, for when cultivated alone, it can be better attended and gathered, than when the intermediate spaces are occupied with other vegetables. Moreover, the intermediate crops are very liable to injury from the carelessness of the negroes who may be employed, either in working among them, or gathering the young pods when they come into use. If any vegetable is raised in large quantities on a plantation for the use of the slaves, this certainly should, for it is not only extremely wholesome and palatable to them, but interferes

less with the regular operations of the plantation than any other. They are grown during the winter, require little preparation or culture, and but a very small supply of manure—none if the land be but moderately rich. They can also be cultivated on the ground intended for *slip potatoes*, for which they are a good preparatory crop, and afford, if listed under before they dry up, a supply of manure, greater than they consumed.

The varieties are very numerous, so much so, that it would require considerable space merely to enumerate them, and others are yearly brought into notice. We have cultivated many, but finding as yet none preferable to the old varieties, we still continue to sow the Charletons and Marrowfats. For the plantation garden we prefer the Dwarf Marrowfats, when they can be obtained pure; but that they cannot always be had so, we know from sad experience, having had at least six varieties of peas sold under this name, at different periods.* We shall confine ourselves to this variety.

The month of November is fully as early as any peas can be ventured, and as there is some little risk attending even this sowing, we would recommend that the *general crop* be not put in until the middle of December, and the sowings may be continued at intervals of two or three weeks, until the month of February. But these last do not so well, and after that period, although some may be obtained, yet the crop generally is very scant, and as there ought by that time to be an abundant supply of other vegetables, they are not much sought after.

In preparing the ground, let the plough be used freely, and having it well pulverized, proceed to lay off rows four feet apart, and let them be as deep as can be made by running the plough twice in the same furrow; this will be more necessary if manure is to be used, for peas should be covered at least three or four inches deep. Some prefer sowing two rows very near to each other, and then leaving a greater space between them. This plan will answer very well in the garden where the hoe only is to be used, but cannot be successfully put in practice in the field culture, unless it is intended to bestow considerable attention, and use the hoe between the contiguous rows—otherwise the single rows are to be preferred. If the ground be moderately rich, a little ashes only need be used, but if, on the contrary, it be not in good condition, let some manure from the stable or cow-pen be strewed along the furrows, and this will be improved if a little lime be also used. But it is sometimes inconvenient to spare these, and it is desirable, therefore, to know what substitutes can be resorted to. We have employed both the swamp and the salt-mud, with success, but they require some care, and a knowledge of their properties, before they can be used with safety, especially the latter. With respect to the swamp mud, all that is necessary is to ascertain that it contains nothing hostile to vegetable life, for we have at times had our crop injured by its application, when we have neglected this precaution. If it does not, it may be freely used fresh from the swamp, and the peas sown immediately on it, without any addition; but we have generally preferred having lime scattered over and incorporated with it, before we sow them. If, on the other hand, it be found to contain some noxious properties, it is best to have it drawn from the swamp and left exposed to the action of the atmosphere for at least one season, and during this time to be once or twice turned over. An addition of lime or stable manure, or salt-mud, will form a most valuable compost, which will be still better if they all be added, and well mixed together before using them.

The use of the salt-mud requires more care. The saline particles which it contains, is hostile to vegetable life, whenever it is in excess, and consequently the only way to manage, is, either to neutralize it in some measure, or diffuse it through a larger mass, by incorporating it with other substances:—we prefer the latter mode, and in this way have generally employed it, and we think the best crops of peas we have ever had, were from those plants which were manured with a compost of marsh mud and stable manure, in about the portion of one-third stable manure to two-thirds of mud. We have also had excellent

crops from swamp and marsh mud, formed into a compost, by placing them in alternate layers. But it must be borne in mind that all compost heaps in which salt mud is an ingredient, ought to be made sometime, and well mixed, by frequently turning them over before they are used. There is another caution to be given, if salt mud forms any considerable portion of the compost: and that is, that the peas must never be sown on the manure, for the salt would rot them before they have sprouted, or so injure their vegetative qualities, that they will never recover or produce well. It is the safest plan, whenever salt-mud is used, to leave at least one inch of earth intervening between the peas and the mud.

In this way we have managed them with considerable success. The quantity of seed necessary for an acre is about one and a half bushels. Some sow less, and others as many as two bushels, but our experience has been in favour of that quantity. If sown in single rows made by the plough, as directed above, there will be a space of six or eight inches wide throughout, and the peas should be scattered as evenly over it as possible. The hoe will undoubtedly cover them with greater neatness than the plough, but the latter may be used for expedition sake, as there is little danger of burying them too deep. They should, however, be carefully and evenly covered, so that they may not shoot out in every direction. When the young plants are about three or four inches high, they ought to have the earth stirred around them; this can best be done by the hoe, and as only the rows need now be gone over, it will not take much time. When six or eight inches high, they should be again gone over, and have earth drawn up to them, which will afford them considerable support. The intervals between the rows ought now to be broken up, and cleared of weeds either by the cultivator or plough. At this time they should be *rodded*, that is, have sticks or bushes stuck along the rows, to support them, and on which they are to climb. These should be about four feet high, and if stuck in a sloping direction, so that the extremities of the lower branches of the bushes be but a few inches from the ground, a less number will be required than when they are placed in an upright position. Smaller bushes can be stuck at those places where this cannot be effected, which will assist the peas to mount up to the larger ones. When it is intended to have them stuck, the operation ought not to be delayed long, for they ought not to be permitted to trail on the ground, but should at once mount up on the sticks placed for their support, and some gardeners affirm that the productiveness of the crop depends in some measure on the earliness and manner in which this is done. It will only be necessary to give one more hoeing, and the crop can be laid by, or if you have a skilful ploughman, the plough may be used, which should always turn the furrows towards the plants.

The providing for and sticking of the peas, is the most laborious part of their culture, and takes considerable time. On a cotton plantation the cotton stalks will answer every purpose, and as they have to be cut down, whether used for this purpose or not, the labour of providing sticks may be considered as saved, but on other plantations, the providing of these forms a serious objection to a more extensive culture of the pea. Fortunately, however, the rodding of the peas is not absolutely necessary, and although there can be no doubt but that peas, well rodded, will bear more than those which are not, yet the additional produce is by no means adequate to the additional labour required.

Should it be intended to pursue this latter mode of culture, the peas should be sown on beds or ridges, and at each working they should have the earth drawn well up to them, in order to support them. When they get too tall, to support themselves longer, which will be about the time they are blossoming, let the whole ground be gone over with, either the hoe or plough, the soil well pulverized and cleared of weeds, and lastly, let the earth be drawn on the peas from one side, which will cause them to recline altogether in the same direction; the object of this is to prevent the wind from whipping them, when more grown, and tossing them from side to side, which would be the case if earth was not placed on their stems in sufficient quantities to keep them stationary.

The reason of their being sown on ridges is to prevent their being injured by wet weather.

There is also another mode, which is this: Two rows are sown contiguous to each other, say about two feet, and when they have grown sufficiently, they are made to incline towards each other. They meet in the centre, their tendrils become intertwined, and thus they afford mental support and grow up.

About the middle of April peas are in their greatest perfection and abundance. Where the earlier varieties have been sown, or the season has been particularly favourable, they may be had by the last of March, or commencement of April. If a few be wanted earlier, they may be had by topping the plants when they have produced from four to six blossoms. This plan is pursued by some market gardeners, but it is too troublesome for a general crop.

ON THE CULTIVATION OF THE PELARGONIUM,

(GERANIUM.)

AS PRACTISED AT THE RIGHT HONORABLE THE EARL OF EGREMONT'S,

PETWORTH-HOUSE, SUSSEX.

BY MR. GEORGE HARRISON, UNDER GARDENER THERE.

Gentlemen,—With very great pleasure and interest, I have perused the first number of your Horticultural Register, and now take up my pen to detail the mode of treatment I pursue with that beautiful genus, Pelargonium; and upon your reception of the paper, (should it meet with your approval,) I shall be glad of its insertion in your work.

At this place, we have a very extensive collection of the finer sorts; and the peculiarity of their growth and blooming, have been much admired and approved of, having a succession of blooming plants all the year.

In August, cuttings are taken off the old plants, choosing such as have the young wood tolerably perfected; they are cut off about six inches long, and close under a joint, and each cutting is put into a small pot, two inches wide, by two inches and a half deep. The pots are filled with a compost, consisting of

One-half of Vegetable-Mould,
One-half of Decayed Leaves,
One-third of Peat,
One-sixth of fine White Sand.

Previous to filling the pots, the compost is well mixed together. The cuttings are inserted by making a hole in the centre, and after placing them in, the hole is filled up with white sand; the soil is then pressed close to each cutting, and they are watered—they are then plunged in a hot-bed frame, no air is admitted for several days, but they are shaded when required. As soon as the cuttiugs push, air is admitted freely. In four or five weeks, these cuttings are removed into larger pots, about five inches wide, by six deep, the same kind of compost is used as before; the plants are then placed in a cool frame, or removed into the green-house, where they will come into bloom early in March following.

About the end of September, another succession of cuttings is put in, and treated as the others where; but when the plants are about ten

inches high, the ends of the shoots are pinched off—this causes them to push a number of lateral branches, and makes the plants bushy. These flower early in May.

Early in January, a third stock of cuttings is put in; these are also stopped at ten inches high. The plants are kept in a cool and airy situation, from the first of May to July, and are then taken into the houses to bloom, which they will do to the end of September.

In March, a fourth lot of cuttings is put in; these after being stopped, will push shoots, which when they have got six inches long are also stopped. These plants are kept in a cool, airy situation, from the end of May to September, and are then taken into the houses, and will bloom to December or later.

The plants are frequently syringed with a mixture of soap-suds and tobacco-water, which keeps them perfectly clean from insects of any kind. I frequently water the plants, at the roots, with strong manure-water and soap-suds.

Plants treated in this manner, always appear healthy and vigorous, and the blossoms are much finer than are produced upon old plants, that have been cut down and treated in the usual manner.

All my spare old plants are finally turned out into the open borders, and flower admirably; and from being so very dwarf and bushy, they are very suitable for the purpose.

I am Gentlemen, &c.

July 6th, 1831. GEORGE HARRISON.

For the Southern Cabinet.

NOTICES OF ERRATA, AND FURTHER OBSERVATIONS ON MANURING COTTON.

BY W. B. SEABROOK, ESQ.

Mr. Editor,—In the Report of the Special Committee of the St. John's, Colleton, Agricultural Society, on Professor Shephard's Analysis of the Soils of Edisto Island, published in your last number, I observe several typographical errors, a few of which it is in part the object of this communication to correct.—

Page 450, line 1, after the word desideratum, for a period insert a comma.
Page 452, line 32, for production, read productions.
Page 452, line 47, for at cost, read at a cost.
Page 456, line 39, for seem, read seems.
Page 458, line 25, for But air, however, as essential to vegetables, read That air, however, is essentia to vegetables.
Page 458, line 38, for if, read of.
Page 459, line 1, for cotton, read bottom.
Page 460, line 3, for evidences, read evidence.
Page 460, line 17, for arises, read arise.
Page 460, line 35, for firmness, read fineness.
Page 460, line 43, for stimalating, read stimulating.
Page 461, line 43, for benencial, read beneficial.
Page 463, line 7, for varient, read variant.
Page 463, line 30, for ure, read use.
Page 464, line 24, for substances; read subject.

It was to the Committee a subject of regret that, from peculiar circumstances, they were in some measure constrained to be brief on the various topics introduced by them. Hence, they were not sufficiently explicit on many points, in reference to which it is highly important that the most accurate information should exist. This is especially true concerning the use of marsh as a manure for cotton. The Committee say, that "in a green state, from twenty-five to thirty cart-loads per acre ought to be applied." Marsh is a manure of great value, and is adapted to all grounds, except those that are low, or even flat, or very retentive of moisture. As a general rule, autumn is the proper season for turning it into the soil. On high or light blowing lands, it should never be buried in the summer. If, however, it be then done, the quantity to the acre ought not to exceed twenty cart-loads; for, the "blue disease," which so frequently ensues, where summer listings of this substance are resorted to, is mainly attributable to *quantity*. If marsh, without previously having undergone the process of decomposition, be listed in as late as February, although the planter may calculate with much certainty on an abundance of top-fruit, the pods at the bottom of the plants will be very limited in number. This is referable to the plain physiological principle, that no substance is food for vegetables unless in a soluble state. As soon as geine is produced, its salutary agency is immediately developed. Among the reasons urged in the report in favor of bringing all manures for cotton to the condition of short muck, this one alone may be pronounced conclusive.

A very extensive and successful planter of this Island, uses green marsh, buried in summer, to a great extent. Avoiding all low and very high lands, the gatherings of one day are conveyed to the field on the following, and immediately imbedded; or rather a small portion of earth taken from the tops of the old ridges is carelessly thrown upon it. In this way he has now about sixty acres manured. The average quantity cut per day by each labourer is about four cart-loads. Where the planter is unwilling to adopt the plan of making composts, as recommended in the Report, I would in the strongest terms urge him at least to add marsh mud to the compost heap. If the cattle be nightly penned, alternate layers of vegetable substances and *turf* mud, where there is a *deficiency* of vegetable matter in the soil, soon furnish a compound of highly fertilizing properties. In the judgment of several of our most experienced agriculturists, turf mud is perhaps the very best kind for all poor lands. It certainly gives a better growth to the cotton plant than any other description. WHITEMARSH B. SEABROOK.

Edingsville, September 4th, 1840.

TALES, SKETCHES, &C.

For the Southern Cabinet.

A SKETCH OF THE ISLAND OF MADEIRA IN THE YEAR 1836.

BY CAPT. G—— T———, OF SOUTH-CAROLINA.

[CONCLUDED FROM PAGE 493.]

COUNTRY AROUND FUNCHAL—VILLAGES, &c.—DESCRIPTION OF THE PALHEIRO DOS FERRIEROS.

THERE are a number of pretty villages in the vicinity of Funchal, which in common with most others on the island, are situated on the sea coast. About four or five miles to the West is the village of Carm de Sollos, buried in a deep valley open to the ocean, which forms a deep bay, that washes the skirts of the town, and is protected on the East and West by immense crags arising perpendicular from the sea. The beach is always lined with boats, ready at a moment's warning, to launch through the surf and convey freight, or passengers to any part of the island;—the distance by water to Funchal is four miles, and is performed in one hour with a row-boat and two men. The neighbourhood of this village is said to produce the best wine made on the island. The mountains rise in the rear to the height of upwards of five thousand feet, Pico Ruiso being five thousand one hundred feet above the level of the ocean. Owing to the difficulty of the ascent, it has been seldom visited. To the eastward of Funchal, within a short ride, are the villages of Camacha, Santa Cruz, or Machico, (where they exhibit the cedar cross made by desire of Machico the unfortunate lover.) Camacha has a paltry church in a small enclosure surrounded by a stone wall. The interior has nothing to boast of, and presents a neglected appearance. This, with a few peasants' cabins, and one or two paltry villas belonging to English residents, forms the village. The scenery around is, however, beautiful; and in the suburbs is an extensive common, occupying the top of a very high spot, whence you have a fine view of the ocean many hundred feet beneath, and of the islands called the Desertas and Point St. Lawrence or Lorenzo. In the same route, about fourteen miles east of Funchal, is another very pleasant place, called St. Antonio de Serra, being a very commodious house, originally built by Government for the reception of travellers bound to the north part of the island, and has been improved by private contributions. Adjoining it, is a chapel, where a priest constantly resides; and any respectable person or party who may choose to enjoy a cool climate and level country, which its situation commands, can live there rent free as long as it suits his convenience—consequently, many pic-nic parties are made up and enjoyed there. It is also a favorite ride with the citizens of Funchal.

About half way between the first mentioned village (Camacha) and Funchal, is the Palheiro de Frrereiros, a beautiful estate, consisting of a villa and grounds, belonging to a very hospitable and gentlemanly Portuguese, of the name of Joas de Carvalhal, who is the proprietor of the largest estates on the island. His income is above £20,000 per annum. He received his education in England, and has travelled over the greater part of Europe. Any person respectably dressed is promptly admitted to traverse this noble domain, and to view his charming gardens. It is protected towards the main-road by a very high stone wall running its whole length with an entrance through a large iron gate richly ornamented at either end of it, where is always stationed a porter to receive visitors. Formerly, persons were allowed to ride around the grounds; but much damage having been occasioned in consequence, it is now prohibited, and painted placards are erected on posts fronting the entrance, requesting visitors not to mutilate or destroy any of the plants or flowers, many having formerly been wantonly dug up and carried off. A short walk from the upper entrance leads to a circular tank of about fifty or sixty yards in diameter, built of stone, smoothly stuccoed and floored with marble. This is filled with fresh water to the depth of four or five feet, and was intended for some swans which were imported from Europe, but they have now disappeared. It makes, however, a delightful bath, and is so far removed from the house as to be perfectly private. There is nothing remarkable in the dwelling house, being merely a two story stone building, in the English cottage style, and plaistered. Near the dwelling is a very neat chapel, containing a handsome altar, with some rich paintings from Scripture, and lamp suspended from the centre by a chain, which was formerly of silver; but when the Miguelites visited this spot, (as they did many others, the proprietors of which were obnoxious to the then reigning despot,) with their besom of destruction, it was carried off as a trophy, and a steel one is now substituted in its place. The stables contain some very fine horses imported from England; the cow-house, two very large English cows with a calf; the piggery, several beautiful specimens of the English and Chinese breed of hogs; the poultry-yard, every kind of domestic fowl; the dovecote, every species of the pigeon; the aviary, (to which is connected an enclosure of wire work about sixty feet in extent,) contains a variety of birds, among which are the English and Chinese pheasants, the latter a most beautiful specimen of the feathered tribe, beside many other rare and curious birds imported from different quarters of the globe. At the different angles of the dovecote are paintings pretty well executed, representing the robbery of the chapel—the astonishment and frenzy of the Miguelite priesthood at the news of the signing of the present constitution, &c. &c.—indeed, the whole of the out-buildings are finished in good style and do credit to the projector and artist. Immediately in front of the dwelling are the gardens laid out in a most beautiful style, and the walks all neatly paved with a very small smooth stone, forming with their different colours a variety of figures throughout the whole space Nearly in the centre are four very large reservoirs of water, built of stone, one above another, as the ground ascends from the lower part of the garden in which are thousands of the most beautiful gold and silver fish. The whole of the grounds cover an extent of hundreds of acres, all laid out in broad avenues, shaded with majestic chesnuts and oaks, with groves of the same, and other valuable

trees which would require at least a week's residence to become acquainted with. On the most elevated spot of ground, and from which you have an extensive view of the ocean, stands a kind of summer-house of octagan shape, which is called the look out-house. It commands a fine prospect, and to judge by the number of names written and cut upon every part of the building, has been frequently visited. During the time the Miguelites had possession of the island, the generous proprietor of this estate was obliged to flee, and but for property which he had already in the funds in England, he would have been dependant on strangers for subsistence. He fortunately left a good friend in an Englishman behind him, who looked after his property in the island, and was the means of saving much from destruction. This gentleman resides with him occasionally now.

AGRICULTURE—COMMERCE—MANUFACTURES, &c.

The proprietors of lands in Madeira, do not farm them out as in Europe, but allot a certain portion to each peasant on the estate to be cultivated, which he does at his own expense, and as a compensation receives half the produce for his labor. This plan has many beneficial effects, inciting them to industry and a watchful care over their crops; and yields a better income to the landholder than rents which he would always find difficulty in collecting. When cattle are given out to graze they are valued; and when the owner receives them again from the grasier they are again valued, and he receives half the increased value as a remuneration.

Wheat is cultivated in different parts of the island, which is trod out in the primitive style by oxen in the open field. This operation is very annoying to a by-stander, owing to the number of small insects contained in the grain, which are dispersed in every direction, and lighting on the person in swarms, inflict considerable pain. The natives, however, are exempt, probably owing to the toughness of their skin, which is always so much exposed to the weather.———Soon after the first colonization of the island, the sugar-cane was introduced, and for many years sugar formed the staple commodity; but at present very little is made, the whole attention of the Islanders being devoted to the cultivation of the vine, the produce of which is so much esteemed throughout the world. The vines are trained to trellises of cane work, in general (with the exception of the table grape which is carried much higher) about three feet from the ground—are planted about from four to six feet apart, and firmly secured with thongs to the cane to prevent their being too much agitated by high winds, and are not suffered to run to any great length. There is a constant succession of young vines coming forward, to which the old ones in due time give place. Great attention is paid to irrigation during the summer months, which is effected by introducing into the vineyards the water from the mountains by means of the numerous artificial channels of communication with the reservoirs among them, two or three times a week. The grape is fit for making into wine early in September, great quantities are destroyed by lizards and rats. In some parts of the island the vines are allowed to run up lofty trees, but do not succeed so well. The natives are very expert in gathering these crops by means of a basket attached to either end of a cord which is thrown over a lofty limb of the tree, and moving from limb to limb they fill one basket with grapes which descends as the empty one rises, like

two buckets in a well. By this simple method a vine is soon stripped. The grapes when collected for making wine, are thrown into a wooden trough about six feet square and two feet deep—when the trough is nearly filled, as many peasants as can conveniently move about in it, get in bare legged and with their feet press out the juice which runs through channels made for the purpose into a resorvoir—the stalks and husks are then collected into one heap and pressed by means of a lever similar to that of a cider press. This last operation produces the best wine. The most superior wine is produced on the south side of the island, and when first made is of a bright red. It is allowed to ferment for about six weeks, when it is filled into large butts elevated on skids three or four feet from the floor of the wine store, in which arrangement great pains are taken to have them perfectly level, and in an exact line with each other—an hour being sometimes spent in placing one cask to their satisfaction. In the head of each butt within two inches of the lower chime is a vent of about one inch diameter secured by a wooden plug, by means of which the wine having been fined and remained long enough to settle properly, is drawn off into other casks of a similar kind. This operation is repeated a number of times until the wine is considered perfect. Upwards of twenty thousand pipes are made annually, of which about two thirds are exported and the remainder is consumed on the island. The wines of Madeira are classed Tinta or Madeira, Burgundy, Malmsy, Sersial, and simple Madeira. The first three are much dearer than the latter, which ranges from two to three hundred dollars per pipe of one hundred and ten gallons free of charges on board. No foreign wine is allowed to be imported, not even from the mother country (Portugal.) This prohibition is owing to an unsuccessful attempt made some years since to smuggle into the island a quantity of wine from Fayal and Teneriffe, which would have materially affected the reputation of their own wine, as no one who imported from Madeira could then be satisfied, they received the genuine article. The wines were seized, the heads of the casks knocked out in the public market place, and the boats that landed it confiscated, and the smuggler was condemned to transportation, or to pay to the crown in addition to loosing the wine twice its amount. Many individuals have endeavoured to introduce champaigne wine for their own consumption, but were not allowed to land it, though it could not possibly interfere with the Island wines. Another production of the Island, and which forms one of their exports is a superior kind of onion sent in great quantities to the United States.

There are no vessels of any burthen belonging to the Island of Madeira, being chiefly small open boats running to Porto Santo and some decked craft which trade to the Canaries and Cape de Verds. There are also regular packets to Lisbon. The island is chiefly supplied from the United States with the necessaries of life, and which at present can be had almost at first cost. Considerable trade is carried on with England by a regular line of packets, besides transient ships which call at the Island on their outward bound passages to India and the West India colonies, and take in wine and a fresh supply of provisions and water. They carry on also a regular trade with the Brazils, from whence they receive their soap, rum, tobacco, snuff, &c., an attempt to smuggle either of which articles, is punished with transportation. The method of shipping goods on board vessels in the roadstead deserves notice. In consequence of the heavy surf which breaks at times upon the exposed

beach, the undertaking would be a dangerous one but for the expertness of the boat-men, who from long habit have become accustomed to its motions and can take advantage of a proper opportunity to launch their freighted bark. Boats capable of carrying from fifteen to twenty pipes are hauled up on the beach on rollers and kept in an upright position by a stout piece of timber on each side the keel similar to those in use for the sledges. From a capstern on the beach a chain is secured to the after part of the boat's keel, by which when loaded she is eased into the water, and upon the first favourable opportunity launched through the surf. Accidents seldom occur even in the most violent surf. Small boats are managed in the same manner with the exception of being provided with a rope in lieu of a chain. A private individual, with more money than wit, took it into his head that goods might be shipped with much less trouble, and accordingly, erected at his own expense, a lofty brick pillar just within the surf, and upon the top of it placed a large crane projecting beyond the surf, from which he intended by means of pullies to suspend the goods over the boat which was to receive them. His scheme did not succeed, however; and the pillar minus the crane stands to this day about one hundred feet beyond high water mark, a monument of his folly, the sea having receded thus much from the shores.

The coin in circulation throughout the island, is Spanish dollars, pistareens, ten and five cent pieces, and some copper. There is no paper currency. Neither Mexican or American dollars are received. English sovereigns are worth $4 60. Most of the commercial characters on the island are English, with a few Americans. Among the English are many long established houses possessing large capitals. The house of Newton, Gordon, Murdock & Co. ranks among the first. There are upwards of twenty or thirty different firms, English and American, and about as many families. The shops of the natives present a most incongruous medley of every article of merchandise under the sun, and there being no attention paid to the arrangement of different articles, they have a very singular appearance. However, there is one advantage arising from it to a person wanting to purchase any article, for he cannot go amiss. What one has they generally all have, and invariably ask as much again as they expect to receive for it, which is the case in all their dealings with strangers.

Their manufactures are confined to a very few articles. Of cloth, they manufacture a coarse kind of linen and linsey-woolsey for home consumption. Goat skin boots and shoes, and hats in imitation of the Leghorn from the Island straw—baskets of various patterns and very neat from the same, and the willow. In the convents are manufactured artificial flowers from feathers, and ornaments of shell-work, also preserves of various kinds. Their mechanics have become so expert within a few years that very little foreign furniture is at present imported. The Madeira mahogany and walnut furnishes them with a good and cheap material, which being wrought into furniture in the English style, in many respects answers their purposes as well as that which they had been in the habit of importing at an enormous expense both from England and America. Their iron-work, however, is very inferior and clumsy. In the manufacture of the wine pipes, their coopers certainly excel. They are obliged to be very exact in the size of them, as all that contain under one hundred and ten or over one hundred and

twelve gallons are rejected. Those pipes into which old superior wines are filled, are afterwards enclosed in a rough cask made of Russia fir or pine, paying one dollar extra freight. A silk manufactory was established some years since, but did not succeed, notwithstanding the great number of Mulberry trees all over the island encouraged the undertaking. Some coarse earthenware, made from a red clay found in different parts, is merely used for domestic purposes.

REVENUE—IMPORTS AND EXPORTS—REGULATIONS OF THE CUSTOM HOUSE, &c.

The revenue which the mother country derives from the island is, in duties on imports and exports, amounting to about $400,000; and from farming out crown lands, and tythes, $275,00 more, making the total annual revenue a little over half a million of dollars, of which one-third is remitted home on Government account, and the remainder is expended in paying the troops stationed on the island, keeping the fortifications in repair, improving the public roads, securing the city from the effects of freshets, and paying the salaries of the Governor and other public functionaries, supporting the clergy, &c. The Governor's title is, Governor and Captain General of the islands of Madeira, Porto Santo, &c., Member of the Council of her majesty the Queen, &c. His salary is $10,000, and the English pay him an annual tribute of $1,000.

The principal article, and indeed almost the only one exported from the island, (with the exception of some citron which goes principally to the United States, and some onions and walnuts which find their way to the West Indies and the United States,) is wine, which pays an export duty of twelve dollars per pipe of one hundred and ten gallons. Imported goods are not allowed to be re-shipped without paying a duty of eleven per cent. The imports from England consist of almost all kinds of British manufactures, which pay an ad valorem duty of fifteen per cent. from the United States. Flour, corn, rice, Indian meal, beef, pork, fish, lumber, staves, &c. &c.; grain of every kind, as well as flour and fish, are admitted duty free. The duties on imported goods are paid in cash before the articles are suffered to be removed from the custom-house stores, where the merchant is obliged to exhibit the original invoices, which are compared with the vessel's clearance. These invoices are translated and copied in a book kept for that purpose. Each custom-house-store has a superintendant, who takes an account of every package that enters the store under his department, and receives a regular certificate of every one that is despatched. The Collector is obliged to give a regular weekly account of all goods entered and cleared.

Much inconveience sometimes arises from there being less cargo on board than specified in the manifest for Madeira, in which case the vessel is fined forty-eight per cent. on the amount, and the whole of the goods must be landed and pay the regular duty, the bills of lading and the captain's oath that the surplus was not intended for Madeira, notwithstanding. In fact, if all specified in the manifest is not produced, it is construed into an attempt to defraud the government, and the vessel is fined forty-eight per cent. The difficulty in smuggling is not, however, so great as it would appear by the restrictions put on vessels to prevent it, no very particular search being made throughout them by the custom-house officers when she arrives, and those left on board carrying their complaisance so far, if well treated, as to engage personally in it, if not

carried on to too great an extent. Of the regular troops stationed on the Island there is one battallion of Infantry, and one of Artillery, both under excellent discipline, and making a very fine appearance on parade. Besides these there is a body of Militia well dressed and disciplined, and have good music. The officers are generally young men of family, and make a very dashing appearance in their military frock coats faced with scarlet and with slashed sleeves, white vest and pantaloons and handsome caps. The dress of the Regulars is white turned up with blue. A regular guard is maintained throughout the city during the day, which is strengthened at night; and disturbances in the street are immediately quelled by committing the offenders to prison, for which they are subject to a heavy fine, beside paying the prison fees. Any seaman found on shore after sunset, without a written permission from his commanding officer, is sent to prison, and kept at the vessel's expense, till released by the captain or consignees paying the expenses incurred, which exclusive of food, is two dollars. This goes to the patrol, and of course makes them the more vigilant.

There is one printing establishment at Funchal, which issues a weekly journal of a very diminutive size, called *A Flor do Oceana*, or Flower of the Ocean. It is published every Sunday, and furnished to subscribers at the rate of four dollars per annum—contains little else than the Governor's proclamations, receipts and expenditures of the Government, monthly list of arrivals and departures of vessels, and occasionally a price current. This with the printing of cards, hand-bills, &c. is its only support, nothing of the kind meeting with encouragement.

During the winter months in Madeira, the rains are very abundant; and in the most elevated parts, the cold is severe. The tops of the mountains are covered with snow, which is collected and stored in ice-houses built for the purpose, where after being pounded down solid it congeals and in summer serves the inhabitants as a substitute for ice. The peasantry, though constantly exposed, never make any alteration in their dress with the exception of wearing a woollen jacket, which in summer is gonerally thrown over one shoulder, nor do they even change their wet dress for a dry one, but allow their clothes to dry on them; nor has their heads any other protection than the *carapoosa*.

For the Southern Cabinet.

FRANCIS OLDERBY.

A TALE.

BY A PLAIN GENTLEMAN.

[CONCLUDED FROM PAGE 499.]

VIII.

NIGHT after night was spent by Frank in the company of the gambler, Lincoln, whose fortune in game was quite encouraging. Fearful of loosing his favour, Frank kept concealed from him the affair of the detected fraud; and the trifle in possession was magnified as much as necessiated art could effect. This went on very well, until the happening of an event, which we will now relate, destroyed every reasonable hope.

Arm in arm, the elder worthy, and his pliant proselyte, after replenishing their lagging spirits with several glasses of wine, stalked into one of their old haunts. A goodly company was present, and the eye of Lincoln lighted up with animated hope of fleecing some one among the crowd. He had not remained there long before Fortune was on the tilt, and he deeply engaged in her various paraphernalia of dissipation and misery. A half an hour's play changed the colour of his fate. Gloom had taken the place of sunshine; and the capricious queen had deserted him. His opponent gained fast upon him, and his treasures rapidly departed. Turning 'round to Frank, he drained him of all the money he had. That went with the rest; and cool even under this desperate fate, he drew his repeater forth, and staked it as a last remaining hope. It went too—and as his opponent in play, smilingly examined it and slipped it in his pocket, the excited and desperate gambler, with clenched teeth, and perspiration in large drops sweltering on his brow, fixed a look upon him which was big with blood and horror.

Turning 'round, and giving a wink to Olderby, both retired from the room. Frank was pale as death—every hope had departed from his bosom;, and he trembling, followed his leader.

"Let's walk in this restaurate, and take a glass of aqua-vitæ. 'Tis the nearest place, and we need stimulus; yes, a d—n strong stimulant for this blow," said Lincoln, with a malicious and vengeful grin.

"But, what are we to do?" asked Frank, in bitter agony.

"Now, that is a question, to-be-sure!——Why do a thousand things. Rob, murder—but hold! Not so fast. This is no time for jesting; and, to be earnest, you Frank must be the raven which will feed me—and by succouring me now, you will establish a treasure which will benefit you hereafter. You must furnish me with a cool hundred by to-morrow night. It will not be missed, and I'll soon return it to avoid detection. Fortune's done her worst; and she will—she must smile on us again."

Frank hung his head, and the gambler proceeded:

"How—faltering? The friend of Lincoln chicken-hearted? No—no. It cannot be. I do but mistake your humour. Perhaps a few womanish qualms of conscience have taken hold of you.———Well, well—this must be expected in one so young. False hopes and fears invariably attend this stage of man's life."

"No, Sir—I'm possessed of neither feeling which you've named. The mournful subject of my grief is, that I was discharged from employment several days ago."

"Discharged, say you?"

"Yes, deprived of both reputation and support."

"Then, 'tis I that have been cheating myself with false hopes; and your company is neither credit or profit to me.———A vagabond thief thou art then—calculated to roam at large and commit depredations on honest folks' chicken-roosts, or pilfer a gentleman's purse—become pimp, hanger-on, lackey, or what not. Begone!—I'll none of thee. You are now both contemptible and vile."

The gambler was about departing, when Frank laid hold of his coat collar, while the other arm brandished a stilleto which glittered in the moon-beams. His eye glowed with the vengeful fire of insulted pride, and his heart mounted to his lungs and choaked all utterance for a while. The hat of the gambler fell off; and his broad and daring brow had no terrors for the youth, who though partially crushed by a sense of guilt, had still a spark of that keen sensibility of former days remaining—enough to crush the wretch who had dared to add the most bitter insult to grievous injury. Lincoln stood surprised and aghast, while Frank partially regaining his power of speech, addressed him in tones which resembled the screams of a maniac more than the articulations of a rational being.

"Retract, cruel—oh! fiendish scoundrel—retract those disgraceful epithets which you have ungenerously lavished upon me in a bitter moment like this, or by Heaven, I'll plunge this weapon in thy treacherous heart."

Lincoln was no coward; but he possessed the art of mastering his passions to accommodate any one of his designs. He observed too by this circumstance, that his proselyte when driven to extremes, could evince more manly courage and firmness than he at first judged him of possessing. A dark and terrible thought followed and struck his fancy as he gazed coldly and unmoved upon the excited features of Frank.

"Retract, my son, to-be-sure, I will. I see you're not 'up to trap.' I only addressed you thus harshly merely to try your courage and strength. I have a plan on foot, my boy, which will need it, and which I'll tell you of; and had you acted otherwise than you did, you never should have known anything of it, nor would you have been looked on with other than contemptuous eyes by Bill Lincoln.——Come, give us your hand, and then we'll proceed to business."

Frank extended his hand, and picked up the old man's hat and offered it to him. Placing his poignard away, he looked gloomy and hopeless, while Lincoln adjusting his disordered dress, also dwelt minutely on every glance of his victim's eye.

"How? A moment ago so fiery, and now so cold and cheerless. Am I forgiven?"

"Yes;——but it was a sore trial you placed upon me."

"Think no more of it. There was nothing meant further than the machinations of policy, which are intended to work for our mutual benefit. Lend me thine ear for a moment, and I'll tell thee all—closer yet; for old chronicler's say the walls hath ears sometimes, and the winds whisper tales of blood."

Frank with curious yet fearful looks, inclined his ear to the lips of his seducer, while the features of that fiend in human guise indexed the passions of hell. His tale was whispered with art and haste; and when finished, he hastily withdrew himself from this posture of secrecy, and anxiously watched the effect it exercised on the youthful mind of his proselyte. Frank looked dumb with horror, and his person shrank involuntarily from that of the gambler. Lincoln seemed posed for a moment at this unfavourable impression of his communication; but regaining again his tact in villainy, renewed his work. He placed his hand gently on the shoulder of Frank, which caused the wretched youth to start with inward fear from the touch.

"Frank, my son," said he, placing his other hand on the breast of his proselyte, and looking with a kindly gaze on him, "Frank, my son, what I've told you seems to have startled and unmanned you—and why? Because you're scarce from your mother's apron strings, and a novice in the ways of men. When you've lived as long as I have, my boy, these matters will become no more than common-place items in your fancy. Time will alter your train of feeling and thought. It is now only the twilight of noon, which will give place to the darker shades of night;—or the young twig, which will grow into the knotted oak, that will seem to defy the very lightnings of heaven, and laughs in mockery at the tempest which blasts the reed beneath it. Be firm, my boy, and if you have any substantial philosophy, bring it to your aid. Now is the moment to prove ourselves men. What is a stupid, trifling creature's life, in the scale of argument against our misery and want, and the dark and startling future which lies before us? If we do not accomplish the deed, horrible as it may seem, to-morrow may witness us without a morsel to eat or a place to lay our heads. 'Tis a startling truth, my son. Think on it well; and be not rash in abandoning my proposal. Recollect, the opportunity of fortune once past, and the glittering toy may not again tempt your labour."

The gambler relaxed his gaze for a moment, and bent his eyes toward the earth, sanguine to learn the result of what his poisonous tongue had articulated: while Frank, partially recovering himself, raised his eyes and fixed them on the features of his seducer, which wore a studied calmness.

"'Tis as you say. Our situation is certainly desperate, and needs speedy remedy. But 'tis an awful resource—a horrible antidote, which while it succors also poisons. Can you devise no other mode to save us from want? For God's sake try, and let us avoid shedding human blood."

"None," said Lincoln, firmly.

"I dread the deed."

"Indeed! Well then, live and starve, be taken up as a vagrant and placed in the charity-house to tote heavy burdens for your masters, and crack stones for cold mush and beef-water. Lick their feet, and take their biting irony and contempt for jests. Receive a stripe or two for refusing to work when sick, and cry, please your honor, have pity on a poor unfortunate wretch. Do all this, and more; and while Lincoln is revelling in affluence and luxury, he may stop in, pity your misfortunes in the common fashionable cant of the day, and laugh at you for a d—n fool, who refused what even the laws of Nature allow him, and preferred

beggary and shame to bright, sunny riches, merely because he was coward and ass.——I now leave you to your cold and cheerless fate, and will do the work myself. You're not a fit companion—"

"Stay—stay—I will consent. 'Tis my doom, and I cannot avoid it. The world has fleeced me of all I own, and now 'tis my turn to fleece them."

"Think you that your hand will be firm?"

"Doubt it not. Desperate circumstances have given me strength."

"I'll confide in you."

The gambler looking cautiously around with a sinister eye, drew a pistol from his coat-pocket, examined the priming by the lamp's light, and placed it into the hands of Frank.

"Take this," said he, "you may depend upon it. Only do your work as well, and all will be right.———Now, I have a brief charge to give you. In the first place, our pigeon* is a Frenchman—therefore, his eye is quick. You must be cool and sure. Fear nothing—he only wears a cane. If you miss, he's mine. My shot should be reserved for the last, for fear you make a bungling of the matter. He takes his course along this walk home, and lives not twenty rods from the border of the Lake. The fourth corner from this must be our scene of attack if the way is clear—if not, the next, and so on, according to circumstances. But, remember—be firm! Fear nothing—I will be by to aid you.——Now, go in, and take a pull. 'Twill nerve you.———We must not be seen together. Be at your post a half-hour hence. 'Twill be about the time he leaves."

Frank entered the restauraut, while Lincoln stalked sullenly along, muttering curses between his teeth on the Frenchman who had won his all, left him a pennyless wretch, and drove him to this sad and dangerous strait. Yet a fiendish smile of gratification animated his features as he bethought himself of the revenge which he would enjoy by the blow about to be inflicted on his victim's unguarded head. The hopes of repossessing too what he had lost, and more added to it, also pleased his dark and sanguine fancy. Encouraged to hope by these reflections, his mind took a fixed and determined bearing—and he strolled into a bar-room, swallowed during the space of ten minutes two or three glasses of liquor, and departed on his hellish errand.

The hour of revelry had passed, and the streets were silent. The night had grown rather dark—no star brightened the heavens; and the scene betokened a favourable issue to the devoted assassins. In a dark lane, under the shade of a portico, stood Lincoln. The folds of his cloak were closely drawn around his person, and gathered in the pressure of his left hand, while the right grasped, with determined power, the handle of a pistol. His eye was sharp and impatient, and his lips were compressed. Like a part of the building he stood by, did his form seem. No action of muscle was visible but in his countenance. But it was not intended that he should stand long thus: for approaching foot-steps were soon heard, and not many minutes after the form of the marked victim was nearly opposite the assassins. As quick as thought a pistol flashed, and missed fire; and an answering shot from the piece of the Frenchman brought from its victim a scream of agony. Another shot was discharged, which came from Lincoln, and darted, harmless, by

* A cant term for one who becomes the dupe of a gambler.

the form of his victim. The Frenchman discovering that more than one assassin was engaged in the attack, sang out lustly for help. It was a moment of danger; and the disappointed and desperate gambler, flew from the scene of confusion and blood. Lights were produced, neighbours flew to the scene, and from the alarm given, gendarmes assembled, and all stood around the body of the expiring assassin, Frank, whose beautiful features, and groans of torture, drew tears from the eyes of many present. Some were dispatched in quest of the accomplice, while Frank's body was carried on a bier to the calaboose. He died before the morning dawned, and his body was interred in the receptacle allotted to the dishonored dead. The city authorities were assiduous in their search for the master spirit of this infernal work; but he was an old fox, and not to be taken easily. We will venture to say New-Orleans was never again visited by him.

Poor Frank! society lost, by the neglect of thy early education, a member who might have been an ornament to their annals, and Virtue hangs her head in pity o'er thy grave. No polished marble greets the eye with lettered characters of virtuous renown—the gorgeousness and pomp of honorable death, clings not about thee; but the wild flower, and ranker vine, clambers o'er thy disgraced and humble mound—and posterity hath no creditable record of thy name. The grave of a felon, is thy only and fatal inheritance.

IX.

WE now abandon New-Orleans, and return to Mr. Olderby. Several years had elapsed, and he still remained an inmate of his wretched dwelling—enabled to do so partly through the charity of Miss Bridget. Strange as it may appear to the reader, it is nevertheless true, that ten years after the death of his son, he had never learned a syllable of his mournful denouement. All concerning him in the breast of the old man, was but vague and uncertain conjecture. He would sit for hours, in his gloomy abode, with a heart of bitter remorse, and weep and think, and waste his strength away in tears, until weeping became a thing congenial, and perhaps essential, to his existence. An additional ten years witnessed a sad alteration in his appearance and feelings. Grief had preyed so severely upon him, that he was obliged to support his frame by a staff and totter about the room in all the agony of decrepid and cheerless age; a slight palsy appeared also, along with other ills, to have seized upon his frail and shattered body.

As striking occurrences often happen when Nature appears in her most terrific and awful dress, so also was a chilling tale told to the wretched father when every thing around was calculated to lend double agony to its recital.

One evening, when the hour had scarce arrived for retiring to rest, the old man tottered towards his door, to take a look at the clear heavens, and gaze at the beautiful and quiet moon, which was then nearly in her full, and shining sweetly over mountain, stream and tree. He lingered some moments at the door, loth to leave this only pure enjoyment, when he observed suddenly, dark and threatening clouds gather in the distance, which were shortly succeeded by a chilling and gusty wind, and lightning and thunder. He closed his door, and hobbled towards a pine table, where stood a lamp and a few books, one of which, after setting down on a bench and passing his hand several times over his dim eyes, and

adjusting thereon a pair of spectacles, he commenced reading. By this time the rain poured down in torrents, and the angry thunder rattled over his humble shed in awful peals, while the electrical fires of heaven seemed every moment on the eve of inflicting final destruction on his head. He listened, with the nervous agitation of desolate age, for some time to this startling conflict of the elements, when amid the roaring and spattering, he distinguished the cries of some distressed person sueing for admittance and hospitality. He hobbled toward the door as fast as possible, anxious to give relief; which as he opened, admitted a large body of water driven in by the wind, and with it a wretched looking man, clothed in rags, and whose daring brow and severe eye caused the inmate of that cheerless abode to shrink as from a tiger.

"My compliments to you, old master," said he of the rags, with an irony chuckle.

"The same to you, friend.——You'd better come further in, and dry yourself."

"Thank you, old gentleman.———This is an ugly night. Jove never, to my mind, has been so angry as in this same luckless hour. I am soaked to the skin, and woe to me, my wardrobe is scanty, as you may readily observe.—In a word, old gentleman, I'm an unfortunate wretch, aged and helpless like yourself—have outlived my credit and friends, and only exist to be a punishment to myself and a disgrace to my kind. I try to laugh away my sorrows, but in spite of all my forced mirth and ingenious baffling of the enemy, old wounds will gape open, and remorseful thoughts fill my mind like Richard's dream, and damns every sensation of happiness.———I throw myself upon you for a few hours charity, which I know you'll not refuse; for on that brow I can read a language kindred to my heart, and in that eye I can see the glances of a fellow mourner. Will you succor me?"

"I will.———If you'll assist me, a fire shall be made to dry your clothes, and a cold snack and some spirits shall revive you. We will then pass a few hours in talking over past misfortunes."

"Agreed!" cried the stranger exultingly.

The old man directed his guest in the preparation; and with his own feeble assistance, things were arranged to promise.———The storm increased in its violence; and the lurid and fitful flashes of lightning, as it penetrated the building, illuminating the forms of these two wretched beings, afforded a scene worthy the pencil of Dominichino. The repast was devoured with eagerness by the stranger, and the liquor was neglected by neither of them. Regardless of the raging elements without, the laugh and tale prevailed with glee; and though merriment had preceded their evening's frolic, they were destined to experience a sequel of bitter sorrow.

"But what became of this youth—this fool, as you call him?" enquired the old man anxiously, and lowering his mirth, as the stranger stopped a moment to replenish his cup.

"Why, I'll tell you.——He gave me the slip; and for some time I heard nothing of him—not until I was sauntering along many nights after in the street did I see him.——Enough, he again became my dupe. He had then obtained a situation in good employ. I fleeced him; and he was then discharged as a thief. And now, old gentleman, as we have gone thus far together, I may place a secret within your bosom. Can I trust you?"

"You can—for I have felt the lash, and can sympathise for a wretch like myself, and overlook his faults."

"Well—well: we may be better acquainted hereafter.———You must know then, that my luck turned, I lost every shilling, and formed a plan for murdering the creature that had taken my all, and left me penniless. I obtained the help of this youth. We awaited the arrival of our victim. The youth fired first and missed, and a pistol ball, in defence, penetrated his heart. I thought I could bring the wretch down that had discharged it, but my ball whistled harmlessly by him, as if he possessed a charmed life. He gave an alarm—people were gathering about—and I barely succeeded in securing an escape. Here ends my tale of blood and guilt.——Am I not to be pitied, old master? But come, fill your cup, and a fig for care. I'm determined to be merry to-night in spite of fate."

The stranger proceeded to replenish his cup; but the old man's thoughts seemed to take a different turn, although he had partaken freely of the exhilarating liquid. Something heavy and important seemed labouring within his aged bosom; and a tear was in his eye, as he raised his head, and gazed thoughtfully in the stranger's face.

"Friend," said he faulteringly, "if it may not be amiss, and only for trifling curiosity's sake, what might have been this youth's name?"

The stranger's hand dropped the cup for a moment, and his eye met that of the old man's. His reason appeared to struggle with the effects of the liquor for a second, and he seemed loth to answer the question.

"Well—well," said he at length, "as I've told you a part—the remainder can't do me more injury. But recollect—if you betray me, tremble!————His name was Francis Olderby."

"Francis Olderby!—oh, my God, it is my son.———Wretch! you have murdered my child!!—and blood for blood," screamed the old man with frantic agony, as he vainly tried to grasp a knife that lay near him, and expired with a groan that appeared to freeze the stranger to the spot on which he stood.

Bob Lincoln gazed awhile, like a statue, at the stiffened corpse, and no muscle appeared to move. The wind that came through the crevices of the building blew the few grey locks about the face of the old man, and his withered lips appeared, even in death's icy spell, to be dictating a bitter curse on the destroyer of his child. The gambler feeling an awful monitor in the corpse, turned away to the table and filled again his cup. The weather had cleared up by this time; and he left the roof which he had cursed with his ungrateful and evil appearance, striving to chase away the awful convictions which were preying upon his spirits, by singing a verse of an obscene song—he departed lest justice should have its due.

As the day dawned, an aged female, with a servant in attendance, on whose arm swung a basket, was seen to enter the wretched abode. It was Miss Bridget; and great was her horror and distress, to see the aged Olderby stretched on the floor, a lifeless corpse. Many tears were shed over his pale and icy features—his bier was blessed by the "pearly drops" of that "ministering angel"—the reservoir of woman's heart was thrown open; and in its gentle stream religion and humanity mingled their grateful waters.

Miss Bridget lived to learn the particulars of this startling tragedy by the arrest and confession, some time after, of the infamous Lincoln;

and many a sigh has been made in the silence of her chamber, and many a tear shed on the pillow, for the fate of her early friends—and more particularly for that of her pet, the youthful and beautiful Francis Olderby. But time has witnessed them all in their sepulchres. Their bones have mingled with, and become no more than their mother-earth, and the wild flower alone weeps o'er their graves, and marks the spot of their entombment.

The following lines are an episode in a work published some time since in London, called the Devil's Progress.—

THE DYING HEBREW'S PRAYER.

A Hebrew knelt, in the dying light,
His eye was dim and cold,
The hairs on his brow were silver white,
And his blood was thin and old!
He lifted his looks to his latest sun,
For he knew that his pilgrimage was done!—
And as he saw God's *shadow* there,
His spirit poured itself in prayer!

"I come unto death's second birth,
Beneath a stranger air,
A pilgrim on a dull, cold earth,
As all my fathers were!
And men have stamped me with a curse,—
I feel it is not *Thine*,
Thy mercy—like yon sun—was made
On me—as them—to shine;
And, therefore, dare I lift mine eye,
Through that, to thee,—before I die!

"In this great temple, built by thee,
Whose altars are divine;
Beneath yon lamp, that, ceaselessly,
Lights up thine own true shrine,
Oh! take my latest sacrifice,—
Look down, and make this sod
Holy as that where, long ago,
The Hebrew met his God!

"I have not counted the widow's tears,
Nor dimned the orphan's eye,
I have not stained the virgin's years,
Nor mocked the mourner's cry:
The songs of Zion in mine ear,
Have ever been most sweet,
And, always, when I felt thee near,
My 'shoes' were 'off my feet!'"

"I have known Thee, in the whirlwind,
I have known Thee, on the hill,
I have loved Thee in the voice of birds,
Or the music of the rill!
I dream't Thee in the shadow,
I saw Thee, in the light,
I heard Thee, in the thunder-peal,
And worshipped, in the night!
All beauty while it spoke of Thee,
Still made my soul rejoice.
And my spirit bowed within itself,
To hear Thy 'still small voice!'
I *have* not felt myself a thing,
Far from thy presence driven,
By flaming sword or waving wing,
Shut out from Thee and heaven!

"Must I the whirlwind reap, because
My father sowed the storm?
Or shrink— because *another* sinned
Beneath thy red right-arm?
Oh! much of this we daily scan,
And much is all unknown;
But I will not take my curse from *man*,
I turn to thee alone!
Oh! bid my fainting spirit live,
And what is dark reveal,
And what is evil, oh! forgive,
And what is broken heal;
And cleanse my nature, from above,
In the deep Jordan of thy love.

"I know not if the Chrtstian's heaven
Shall be the same as mine,
I only ask to be forgiven,
And taken home to thine!
I wander on a far, dim strand,
Whose mansions are as tombs,
And long to find the father-land,
Where there are many homes!—
Oh! grant, of all your starry thrones,
Some dim and distant star,
Where Judah's lost and scattered sons
May love thee from afar!
Where all earth's myriad harps shall meet,
In choral praise and prayer.
Shall Zion's harp—of old, so sweet,—
Alone be wanting there?
Yet, place me in thy lower seat,
Though I—as now—be, there,
The Christian's scorn, the Christian's jest;
But let me see and hear,
From some dim mansion in the sky,
Thy bright ones, and their melody!"

For the Southern Cabinet.

THE DEATH OF PARKER.

A TALE OF THE REVOLUTION.

Near sixty years have passed away since the conclusion of our great struggle for independence—few, very few, now remain amongst us, of the gallant spirits who survived that fearful contest; and soon in the common course of things, all of them will be gone forever, and with them all hope of recovering from oblivion many a deed of manly daring, now only preserved in the memories of those who achieved, or those who witnessed them.

The most interesting history of South-Carolina remains yet to be written. It is not of the seige of Charleston, or of the battles of the Cowpens or Eutaw, where men fought and died in masses, forced on by discipline and by a will not their own, that our history is deficient; but little unfortunately has been preserved of those instances of individual suffering and daring, which the nature of our warfare, more than any other of the colonies during the Revolutionary War, furnished abundant examples.

After the seige and fall of Charleston in the year 1780, and the shameful violation of the articles of treaty by the British officers, the war in South-Carolina became essentially of a partisan character. The State was overrun, but not subdued. Bold spirits arose every where to assert their liberties, and they were frequently and instantaneously crushed by a powerful and unsparing foe, and no recollection now survives of themselves or their deeds;—but not all of them thus perished. One fearful contest tradition has preserved, which I will endeavour to record:—a struggle of man with his fellow man—a pursuit—a pistol shot and a death.

Captain Jacob Rumph, (known after the Revolution, better perhaps, as General Rumph,) of Orangeburgh district, was the commander of a troop of Cavalry, raised in his neighbourhood to protect themselves and their families, but who lost no occasion of aiding their friends or annoying their enemies. They are all gone;—history has not recorded their names; but few bolder spirits struck for liberty in that eventful war. Captain Rumph was a man of prodigious size and strength, of great courage and coolness in the hour of danger, and though of a harsh and imperious disposition, no one was better fitted for the command of the hardy and intrepid men who composed his corps. They were usually dispersed at their ordinary avocations on their farms, but they united at a moment's warning from their leader.

Not long after Charleston was taken by the British, Capt. Rumph was returning with two of his wagons, which had been sent into Charleston with produce, in charge of a Dutchman, named Houselighter; and while slowly riding in company with his wagons, on a small but strong horse, his mind gloomily brooding over the oppressed and almost hopeless condition of South-Carolina, he had reached a large pond, on what is now called the old road, about seven miles below the village of Orangeburgh, when he was suddenly roused by the approach of three men on

horse-back, whom he instantly recognised as his most deadly foes. They were well mounted and armed like himself, with sword and pistol.

When the horsemen had reached the opposite side of the road to Capt. Rumph, they halted for a moment, and would have approached him nearer; but he, placing himself in the best posture of defence he could, called out to them:

"Gentlemen, stand off—I wish to have nothing to do with you."

The Tories, for such they were, surveyed him for an instant; and after a short conference with each other, to Capt. Rumph's great relief, rode on, and soon disappeared at the next turn of the road.

Rumph, though he saw with no little satisfaction, that the Tories had passed on, yet was too well acquainted with them to suppose for a moment that he was to get off so easily. He knew very well that the short respite they had thus given him was only, that with an increased force he might become their prey with less danger to themselves. He rightly conjectured, that the three who had passed him in the road, were only scouts sent to apprehend him if unarmed, and who, if he had incautiously suffered them to approach him, would have shot him down while off his guard.

Casting his eyes about for a moment, for means of escape from his wily foes, the danger of his situation became fully apparent. The three troopers he knew belonged to the corps of the sanguinary Cunningham, a part of which, he was certain, was in the neighbourhood, under the command of one of his subaltern officers; and Capt. Rumph, after carefully surveying his situation, became fully conscious of his extreme danger of falling into the hands of his merciless foes. He was mounted upon a strong but slow horse, and the thought of escape on horse-back was abandoned by him without hesitation. He was armed with a trusty cut and thrust sword and a brace of pistols; but it would have been madness, he well knew, to think of opposing himself to such odds as he was sure would be brought against him. There was no time to be lost. His only chance of escape at once flashed across his mind, and he immediately set about executing it. He rode his horse up to the pond already mentioned, and tied him fast to a tree. He then took off the greater part of his clothes and left them near his horse, to induce the suspicion that he had concealed himself in that pond.—But that was very far from his real intention. He walked in the water, near the margin of the pond, until he had gained the side opposite to which he had tethered his horse, and choosing with some caution the place at which he could best leave it, he set off at a rapid rate through the pine woods for home, a distance of some sixteen miles.

In the mean time, the three troopers, who as Capt. Rumph truly supposed, were a party detached to seize him if they could, returned to their main body, consisting of about twenty men under the command of Lieutenant Parker, and reported the situation in which they had left Capt. Rumph. Without loss of time the whole party set off to overtake him. Upon their arrival at the pond, they found that the wagons had proceeded but little distance from the spot which they occupied when the three Tories passed them, and Capt. Rumph's horse and clothes were in the same situation in which they had been left by him. The whole party rode up to the wagon, and fiercely inquired of poor Houselighter, who was pale with terror, where Rumph was. He pointed to the pond, and they rode up to the place where the horse was tied, and when they saw

his clothes, and other signs of Rumph's having taken to the pond, they surrounded it on every side, and dismounting, they entered it sword in hand, and searched every place where he could possibly have been concealed. But their search was fruitless. Rumph was far on his way towards home, before those who were so eagerly thirsting for his blood, could satisfy themselves that he was not there. Irritated by the escape of the prey which they were so confident they had in their grasp, while one part scoured the neighbouring woods in search of Capt. Rumph, the other part of the Tories returned to the wagons, and after taking such of the horses as could be serviceable to them, they stripped the wagons of every thing they could carry away, and burnt them to ashes with the remaining part of their freight. They worried poor Houselighter until he was ready to die with fear, and left him.

Capt. Rumph reached home about sun-set, with the determination to give his pursuers a chance of a fight with less odds on one side; and he immediately set about collecting together the scattered members of his corps. This was soon accomplished—and they, about twenty-five in number, were ready to set off in pursuit of the Tories by day-light the next morning.

This party had proceeded for several hours on their way, and had nearly reached the spot where the wagons of their leader had been burned the day before, and which was the scene of his perilous escape, when they were informed that the Tories, not far below, were feeding their horses near the road, and were wholly unprepared for an attack. The patriots were extremely anxious to be led to the charge. Just before their eyes were the evidences of the wanton destruction of property by the Tories, and their memories could readily supply numberless instances of their horrid barbarity, rapine, and murder. They proceeded at a quickened pace along the road, and soon their enemies appeared in the situation in which they had been described, with their horses carelessly feeding with their saddles on, their bridle-bits out of their mouths, and their riders lying about in groups or sleeping apart from the rest on the ground. No surprise could have been more complete. The Tories discovered their opponents at the distance of three or four hundred yards, and at once prepared for flight. They soon caught their horses and bridled them, and in an instant were mounted and flying in every direction. "Save who can," was the only word. Capt. Rumph and his Troopers dashed down upon them, and as the Tories scattered, every one for himself, the patriots were obliged to single out and pursue, as they were nearly equal in number, almost every one his man. Various were the results of that flight and pursuit.

It was the fortune of Lieutenant Parker, the officer in command of the Tories, to be singled out by Lieutenant Wannamaker, of Capt. Rump's troop. Wannamaker was a man of singular boldness and true devil-may-care sort of spirit. He was a fine horseman, and on this occasion was uncommonly well mounted. In this respect, however, he was not superior to Parker; for after a chase of nearly two miles, Wannamaker had gained but little if any upon Parker—but, unfortunately for the latter, after keeping well ahead for that distance, and while looking back to see if his enemy was gaining upon him, his horse carried him under a stooping tree, which struck him a violent blow upon the left shoulder as he rode under it, and knocked him nearly off, and in his struggle to recover himself his saddle turned and got under the belly of his horse.

In that situation he rode for some distance at an evident disadvantage, and Wannamaker began to gain upon him. Parker's horse, however, broke the girth, and the saddle fell, so that Parker was again for a while able to keep Wannamaker at a safe distance. But it soon became apparent, to Parker's great dismay, that his horse's wind was failing from being ridden without a saddle. In vain he whipped and spurred his jaded horse. Wannamaker was shortening the distance between them at every leap. Parker beheld him nearly within pistol shot; and, frightened beyond measure, he took off his hat and beat his horse on the sides with it to accelerate his speed. It succeeded for a moment, but the fagged horse had done his utmost. Wannamaker was just behind and called out to him with presented pistol:

"Parker, halt! or I will kill you."

Parker heeded not, but continued with renewed violence his blows with his hat. Wannamaker approached nearer and called to him again; but still he rode on. Wannamaker called to him again, the third time, and offered him quarter; but the unhappy man knew that he had no right to expect that mercy which he had never given, halted not.

"Halt, Parker," says Wannamaker, "I have told you the last time."

Parker rode on. Wannamaker fearing something might occur to incline the chances against him, approached the doomed man within half a horses' length and fired. Parker rode erect for a moment; but his hold soon relaxed—he fell backwards on his horse—rolled heavily off, and expired. J.

LOVEWELL'S FIGHT.

BY SEBA SMITH.

"Old men shall shake their heads and say,
Sad was the hour and terrible,
When Lovewell brave 'gainst Paugus went
With fifty men from Dunstable."

Old New-England Ballad.

Let us turn for a moment from the airy creations of fancy and imagination, which grace so large a portion of these pages, to the contemplation of a sober historical incident. I do not believe, Mr. Editor, that your twenty thousand fair readers, will grudgingly descend from the regions of romance and poetry to review with me a stern passage in real life. The earlier history of our country abounds in incidents of romantic and thrilling interest, which are scarcely surpassed in the brilliant regions of fiction, and which, though floating in loose and ill-digested masses in pamphlets, public addresses, and old records, will one day become embodied in a history of uncommon value and unrivalled interest. The long and bloody catalogue of Indian hostilities which have marked every section of our territory, from the time the English settlements were

commenced at Jamestown and Plymouth down to the present day, presents scenes of heroic daring, toilsome endurance, poignant suffering, and sanguinary conflict, which may challenge the world for parallels.

Lovewell's Fight, of which we propose to give a brief account at this time, occurred one hundred and fifteen years ago; May 8, old style, 1725. The scene of the action was in the present town of Fryeburg, in the State of Maine, about fifty miles inland from Portland, and thirty or forty from the White Mountains of New-Hampshire. That part of the country at that time was one deep and wide wilderness. There were a few scattered settlements along the coast of Maine, south of the Kennebec; but at the time of Lovewell's fight, it is said there was no white inhabitant residing within fifty miles of his battle ground. For many years the white inhabitants had suffered exceedingly from the incursions of the savages. The Penobscots, the Norridgewocks, the Androscoggins, and the Pekuawkets had committed the most cruel and bloody excesses year after year upon the defenceless inhabitants of Maine and the frontier settlements of New-Hampshire. Incited by the French settlers in Canada as well as their own warlike and blood-thirsty natures, they had broken up settlement after settlement, murdering most of the inhabitants and carrying of the rest into tedious and almost hopeless captivity. These outrages roused the government of Massachusetts, who at this time held jurisdiction over the territory both of New-Hampshire and Maine, to more vigorous measures for the protection of the inhabitants. Men and money were liberally furnished for this purpose, and to give a stronger stimulous to the exertion of the volunteer companies, a hundred pounds sterling was offered for every Indian scalp that should be brought in. A volunteer company of brave, daring and determined spirits, was organized in the town of Dunstable, New-Hampshire, under the command of Captain John Lowell, in the spring of 1725. In their first excursion they found a wigwam containing one Indian and a boy. They killed and scalped the Indian and carried the boy captive to Boston, where they received not only the reward offered by law, but a handsome present besides. On their second excursion they discovered a party of ten Indians asleep around a fire in the night. They killed every one, and with the ten scalps stretched on hoops and elevated on poles they entered Dover, N. H. in triumph on the twenty-fourth of February. They then proceeded to Boston and received a thousand pounds out of the public treasury. Stimulated by success, Lovewell now conceived the bold design of marching a hundred miles in the wilderness and attacking the Pikuawet tribe at their principal village on the Saco, where now stands the pleasant village of Fryeburg. His company seconded him with zeal, and all things were soon in readiness for the important and daring campaign. In this enterprise of so much hazard and solemnity, they were accompanied both by a surgeon and chaplain. The chaplain's name was Jonathan Frye, a young gentleman of liberal education, who had been graduated at Harvard College two years before, and was much beloved for his amiable qualities, and for his pious devotions for the company during the battle, and while dying of his own wounds. The other officers under Captain Lovewell were Lieutenant Farwell, Lieutenant Wyman, and Ensign Robbins. But few of the names in this brave band have been preserved to us. The primitive muse, however, from which we have already quoted at the head of this article, has handed down one other name to us in a

marked and particular manner, mainly, it would seem, on account of his domestic relations. The strain is as follows:

"With Lovewell brave John Harwood came;
From wife and babes 'twas hard to part;
Young Harwood took her by the hand,
And bound the weeper to his heart.

"Repress that tear, my Mary, dear,
Said Harwood to his loving wife;
It tries me hard te leave thee here
And seek in distant woods the strife.

"When gone, my Mary, think of me,
And pray to God that I may be,
Such as one ought that lives for thee
And come at last in victory.

"Thus left young Harwood babe and wife,
With accents mild she bade adieu;
It grieved those lovers much to part,
So fond and fair, so kind and true."

The whole company numbered forty-six, including surgeon and chaplain, and all things being in readiness, they marched from Dunstable on the 16th of April into the deep wilderness. After they had made some progress in their march, two of the company became lame and returned; and when they had reached within about twenty-five or thirty miles of Pequawket, another fell sick and was unable to proceed. Here they stopped and went to work and built a small stockade fort, both for the accommodation of their sick companion, whom they must now leave behind, and for a place of retreat, of which they might avail themselves should circumstances require it. Here they deposited a good portion of their provisions, and in a most noble, heroic and benevolent spirit they left their surgeon to accompany the sick man, although going right into battle themselves. They also left eight of their soldiers for a guard. Thus reduced to thirty-four in number, this forlorn hope again sent forward in search of their ferocious and blood-thirsty foe. When they approached near the Saco river they came to a pond, and encamped for the night. Early next morning, which was the eighth of May, (or nineteenth, N. S.) and the day which was to decide the fate of their daring enterprise, while they were at their morning devotions, they heard the report of a gun, and on looking round beheld an Indian about a mile distant on a point of land running into the pond. Suspecting that they had been discovered, and that the Indian had been placed there to decoy them, they concluded the hour of conflict was at hand, and prepared for action. They divested themselves of their packs, which they piled together and left without a guard, and supposing a body of the enemy to be in the woods between them and the point of land where the straggling Indian stood, they marched forward with loaded muskets towards the point. Their conjecture, however, was erroneous, and was the means of leading them into a position of extreme peril attended with the most severe and melancholy consequences. While on their march through the woods they encountered a single Indian, who proved to be the same one they had seen on the point. Some of the party fired upon him without effect. The Indian returned their fire, and wounded Captain Lovewell and one of his men with small shot, his charge having been prepared for shooting ducks on the

pond. A second fire brought the Indian lifeless to the ground. History and song both agree in giving the honor of this first victory to Lieutenant Wyman. Our ancient and unknown bard gives the record thus:

"Seth Wyman, who in Woburn lived,
(A marksman he, of courage true,)
Shot the first Indian, whom they saw,
Sheer through his heart the bullet flew.

"The savage had been seeking game,
Two guns and eke a knife he bore,
And two black ducks were in his hand,
He shriek'd, and fell to rise no more."

Having taken the scalp of this Indian, and finding no more of the enemy in that direction, they turned back to the spot where they had left their packs. In the meantime a party of Paquawet hunters and warriors, headed by their chief, Paugus, returning from a scouting tour down the Saco, had fallen upon the trail of Lovewell's march, which they followed till they came to the packs. These they counted, and inferring from the number that the force of the enemy was much inferior to their own, they placed themselves in ambush and waited to attack them on their return. When Lovewell's party came up to the spot where they had left their packs they found they had been removed. In the moment of consternation, when they were casting round to see if they had missed the spot, or if their packs were any where in sight, the savages rose and rushed towards them, rending the air with their shrill and horrid war-whoop. Again the old ballad helps us on with our description.

"Anon there eighty Indians rose,
Who hid themselves in ambush dread;
Their knives they shook, their guns they aimed,
The famous Paugus at their head.

"Good heavens! they dance the Powow dance;
What horrid yells the forest fill!
The grim bear crouches in his den,
The eagle seeks the distant hill.

A severe and hot battle now commenced. This was about ten o'clock in the morning. A well-directed fire was opened on both sides with great spirit and deadly effect. Captain Lovewell and eight of his men soon fell dead on the battle-field, and Lieutenant Farwell and two others were wounded.

"John Lovewell, captain of the band,
His sword he waved, that glittered bright,
For the last time he cheered his men,
And led them onward to the fight.

"Fight on, fight on, brave Lovewell said,
Fight on while heaven shall give you breath;
An Indian ball then pierced him through,
And Lovewell closed his eyes in death."

The Indians also suffered severely from the galling fire of Lovewell's gallant band, and many of them fell to rise no more. But being much superior in numbers they now endeavored to surround the remnant that remained of their foe, which the little band perceiving they retreated to a more favorable position by the side of the pond. Here they had the pond on their rear, on their right was a deep brook, on their left a rocky point, while their front was partly covered by a deep bog and partly

exposed to the approach of the enemy. Here the forlorn hope took their ground and renewed the battle. The enemy pressed hotly upon them and galled them in front and flank, and had the Indians understood well how to use the advantages they possessed, not one white man would have escaped to tell the melancholy story of their misfortunes. Captain Lovewell being dead and Lieutenant Farwell wounded, the command devolved on Lieutenant Wyman, under whose direction the retreat had been effected, and whose judicious management helped to keep his little band in resolute countenance through the remainder of the day. The firing was kept up on both sides without much cessation till near night. The Indians several times invited them to surrender, but they preferred death to captivity and resolved to fight to the last. One of Lovewell's men by the name of Chamberlain was personally acquainted with Paugus and some of his tribe, having in times of peace been with them on hunting excursions. Chamberlain and Paugus hailed each other several times during the battle and threatened each other with death. At last Chamberlain, who carried a long heavy fowling piece, was as good as his word, and brought Paugus to the ground. Our favorite bard has not forgotten to record this passage of the action.

"'Twas Paugus led the Pequa't tribe;
As runs the fox, would Paugus run;
As howls the wild wolf would he howl,
A large bear-skin had Paugus on.

"But Chamberlain of Dunstable,
One whom a savage ne'er shall slay,
Met Paugus by the water side,
And shot him dead upon that day."

The fate of the young and accomplished chaplain seems to have excited peculiar sympathy. He fought by the side of his companions with great determination and courage till about the middle of the afternoon, when he received a mortal wound that disabled him from further action. Still he exerted himself to cheer and encourage the little band, and several times prayed aloud with much fervor for their preservation and success. He had a tender conversation with Lieutenant Farwell; told him he was mortally wounded, and desired him, should he escape, to convey his dying blessing to his parents and comfort them in their affliction. The closing scene of this interview is touchingly described in the fine old ballad from which we have already so largely drawn.

"Lieutenant Farwell took his hand,
His arm around his neck he threw.
And said, brave Chaplain, I could wish
That Heaven had made me die for you.

"The Chaplain on kind Farwell's breast
Aall languishing and bloody fell,
Nor afterward said more, but this,
I love thee, soldier, fare thee well."

Harwood was not permitted to return to "wife and babes," whose sad and tender parting has already been described.

"John Harwood died, all bathed in blood,
When he had fought till set of day;
And many more, we may not name,
Fell in that bloody battle fray."

By the skilful and unceasing firing of Lovewell's men, the Indian forces were gradually thinned off during the day; their war-cries became fainter and fainter, and just before night they yielded the field, carrying off their killed and wounded, and as evidence of their weakness and brokenness of spirit they left the dead bodies of Lovewell and his men unscalped. It was afterwards ascertained that forty-five of the Indians were killed during the engagement, and many more wounded. The little heroic band came off with victory at last; but what a victory!

"Ah, many a wife shall rend her hair,
And many a child cry 'woe is me,'
When messengers the news shall bear
Of Lovewell's dear bought victory."

The remnant of the company at the close of the day, collecting themselves together, found there were nine only who had escaped unhurt. Eleven of the wounded were able to march, but the Chaplain, and Lieutenant Farwell, Ensign Robbins and one other had not strength to leave the battle-ground. There was no alternative, and painful as it was, these must be left to die alone in the woods. They thought it probable the Indians would return again in force the next day, and Ensign Robbins desired them to lay his gun by him charged, that in case he should live till they returned he might be able to kill one more. After the rising of the moon the little band, with the consent of their dying companions, left the battle field, and made the best of their way towards the fort where the surgeon and guard had been left, hoping to recruit and return with fresh hands to look after the dead and dying. But when they reached the fort, to their great surprise they found it deserted. It turned out that one of the company in the first onset of the battle, seeing Lovewell and eight of the men fall, supposed that all was over, and fled to the fort with the news that the company was cut down, and "he alone had escaped" to bring the sad tidings. Upon which the inmates of the fort speedily set out upon their homeward march. The returning company found some provisions at the fort, which saved them from famine, and after thus being recruited they pursued their slow and painful march in separate detachments according as they were able to move, and with the exception of some of the wounded who died on the way, reached at last the frontier settlements and their homes.

This bold and severe battle had such an effect upon the Indian tribes, that they did not renew their hostilities in that quarter for many years afterwards. The centennial return of this hard-fought day was celebrated, May 19, 1825, on the battle ground, by the inhabitants of Fryeburg and the adjacent country, and an elegant address was delivered on the occasion by Charles S. Davies, Esq. of Portland.

It is one of those events in the earlier history of our country fraught with too much interest to be forgotten. The name of the lamented Frye lives in the name of the town which white men have built up on the fair domain of Paugus, and the unfortunate Lovewell has bequeathed his cognomen to the little lake whose waters were stained with his blood. We take leave of the subject in the full belief that the prophetic language of our bard will be true prophecy for many a century to come.

"With footsteps slow shall travellers go
Where Lovewell's Pond shines clear and bright,
And mark the place where those are laid,
Who fell in Lovewell's bloody fight."

SCENES FROM THE DRAMA OF HISTORY.

SCENE I. DENMARK—THE PASSAGE OF THE ICE.

THE enterprising character of Charles Gustavus the Tenth, who succeeded to the Swedish throne on the resignation of that extraordinary person, Queen Christina, created no small alarm in the rival state of Denmark. Urged on by their very fears, and stimulated besides by the Dutch, who dreaded the ascendancy of Sweden, the Danes took advantage of the Polish war, in which Charles had engaged, to declare hostillties against him. But that prince, who inherited the military promptness of his uncle, the great Gustavus Adolphus, marched instantly for Holstein, defeated the Danes in every engagement, overran the whole of Jutland, and at the close of the year 1657 his army of fourteen thousand veteran troops lay on the shore of the Little Belt, divided from the Isle of Funen only by twenty miles of water. Here, at least, the Danes hoped for breathing time; the Swedish fleet could not to put to sea until spring, and even then their own naval resources, with the aid of a few ships from Holland, would be sufficient to battle the enemy. But these expectations were wholly disappointed; a rigorous frost set in, of such unexampled severity, that the Little Belt was frozen over, and a bridge of ice spanned the hitherto impassable barrier. Charles immediately conceived the daring enterprise of marching his whole army over the ice, and waited impatiently for the hour when he might bid his legions "forward."

It was midnight when a council of war was sitting in an old-fashioned chateau where the king had taken up his quarters. The room had a bare and barrack-like appearance, the furniture was scanty and rude; there were not even chairs enough for the whole party, one of the officers occupying a deal box, while another had taken up a precarious position on the summit of a pile of knapsacks. A table of pine-boards, covered with maps, papers, and writing materials, stood in the centre, at one end of which sat Charles himself. He was at that time about thirty-seven, but looked a year or two older; scarcely of middle height, square-shouldered, and compactly built, his whole frame denoted great strength and vigour; his face was broad, the eyes small and gray, his lips thin and well defined, and the general expression of his countenance was highly prepossessing from his frank, fearless air, and look of keen intelligence. He was dressed in a green uniform faced with white, buff leather breeches, and jack-boots; a three-cornered hat lay on the table. The short tails of his coat stuck out on each side, probably for convenience, when on horse-back, and his long straight sword was brought forward between his knees, both hands resting on the pummel. Maréchal Bannier, Generals Wrangel Steinboch, Counts Foot, De la Gardie, and other veteran officers, sat round the table, all of them trained up to military skill in the terrible school of the thirty years' war.

Besides these military councillors, there were present the Chevalier Terlon, envoy of Lous XVI., and Count Uhlfeldt. The latter was a Danish noble, once high in rank, and first minister under Christian IV., whose natural daughter, the beautiful Leonora Christina, he had married. On the death of Christian, Uhlfeldt had intrigued with other nobles on behalf of his brother-in-law Waldemar, in opposition to Frederick, the present king of Denmark, besides insulting the queen and irritating the senators by his overweening pride. Some malpractices with respect

to the coinage having diminished his popularity, and being also called upon by the senate to account for the revenues of his government, the proud count broke with the court altogether; and soon afterwards, when charges little short of treason were brought against him, he and his wife took ship by night and fled to Holland. He was then offered an asylum by Queen Christina of Sweden; her successor, Charles Gustavus, continued it, and now, after a seven years' exile, Corfitz Count Uhlfeldt was come to triumph in the ruin and humiliation of his native country. Tall, handsome, and commanding, skilled in languages, endowed with great genius, and proud as the fallen Lucifer, he was one of those men whose course through life is sure to be distinguished by good or evil beyond the common measure.

An officer entered with despatches.

"'Tis well," said the king, his small eyes flashing with ardour; the frost holds, and Arensdoff reports the ice firm as iron. Gentlemen, let us march."

"Sire," General Wrangel began, "is the risk well considered? A night-march of fourteen thousand men, cavalry and artillery included, over twenty miles of ice;—a thaw, a sudden shift of wind, may sink the whole army, or at least shut us up in the Island of Funen until spring, and even then our release would depend on the chance of a naval victory. Is it prudent?"

He stopped—the King was listening to him with a fixed look and peculiar smile; Wrangel shook his head and sat down.

"It is well I know you," said Charles, nodding carelessly to the General.—"Risk! There is risk, but not more than success is worth. The enemy have no defence but this fosse of the Little Belt; once pass it, and Funen is ours."

"Yes, sire," added Count Uhlfeldt, "and from the shore of Funen Zealand will be in sight; let the frost but hold, and Copenhagen falls."

"Ay," muttered Charles, with a glance of triumph, "Copenhagen—Copenhagen!"

The next instant he turned abruptly in his chair, shifted his sword with a clatter, and threw a sidelong glance at the Count. The King remembered he was a traitor.

Another officer with despatches. After a hasty perusal, Charles rose.

"All is favourable. Gentlemen, to your posts. Remember the general order—that the cavalry lead their horses and march wide; see that the artillery do the same. Chevalier, you will accompany me." He bowed formally to the right and left, and walked straight out of the room, followed by Terlon.

Two hours after midnight the troops began their fearful night-march over a frozen sea. It was a clear starry night; the snow lay a foot deep, and threw a ghastly unnatural glare on the light uniforms and steel arms of the Swedes. As each company or squadron advanced upon the ice, the next marched down to the shore, halting for a few minutes to allow an interval between them! all was done with the cool discipline of veteran soldiers; no confusion, no noise, nothing but the word of command, the creak of artillery wheels, or the rattling of pikes and muskets to announce the simultaneous movements of so many thousand men. When the last files had left the shore, the king stood watching their advance with great interest; the heavy crushing sound grew less and less distinct; the separate divisions seemed to gather into one solid mass,

its size diminishing every instant, until his gallant army, viewed by that "disastrous twilight," had dwindled into a shadowy indistinguishable something, only to be traced by the dark tract it left upon the snow. The cold was so intense that wine and beer were frozen hard, and whenever the slightest breath of air swept over the dreary waste, even the hardy Swede shivered like an ague-struck girl.

"God help the poor soldier who quits his rank to-night!" exclaimed the Chevalier Terlon, wrapping his fur pelisse closer around him. The remark roused Charles from his reverie.

"Monsieur le Chevalier," he replied, "my Swedes will not quit their ranks; and if there be danger, at least we will share it with them. Come."

Sledges drawn by three horses abreast were in waiting; they entered, and bearing to the left, followed in the broad path beaten by the troops.

The trampling of so many men and horses half melted the snow, and the sledges went splashing on through a half-liquid, half-solid consistence, like the chaos of the fiend; hollows in the ice, filled with water two feet deep, would set the horses aslide, and make the slight vehicles waver to and fro, throwing the cold snow-water sheer over the shivering travellers, sudden blasts loaded with snow-drift and powdered ice made the drivers cringe, and forced their shaggy cattle to snort and shake their manes, and thrust their heads beneath each other's shoulder. As they neared the marching columns, one straggler only was seen, raking in a pool with the stock of his musket.

"My cartouche-box, sire," he shouted, in reply to the King's impatient hail.

"Hold on to the sledge, comrade," said Charles, "and keep your rank, though you should have nothing to fight with but your teeth—hold on. Bravely done, La Gardie!" he called to the General in command of the infantry, who was marching in the rear on foot like a common soldier. There was a stir in the ranks as the king drove through; the word passed from mouth to mouth, and the men drew up their knapsacks and pushed on with redoubled vigour, but the Swedes are a silent race, and there was no cheer.

The sledges now spread abroad on all sides, keeping each a hundred yards from the other, for they had reached the mid-channel, and were in the very jaws of danger. Now and then fearful sounds rose, booming on the still night air, as if the ice had suddenly rent to an immeasurable distance. Rough jagged masses strewed the surface, and the dead gloom of winter, no longer whitened over by light reflected from the level snow, darkened into a sinister scowl. The hoof-prints of the cavalry which led the van were not yet effaced, serving as a sort of guide, and the King and the Chevaliers were following hard upon the track, when a shout close ahead startled them; the next instant and a mounted trooper seized the reins, and whirled the horses half round.

"How now, fellow?" said Charles, starting up.

"Ah, sire," cried the man, recognising his voice: "another step, and you were lost. Five of our troop went down here, and the Captain posted me to warn the rear. The ice hereaway is rotten for two hundred yards and more.

A loud crash upon the left, a shriek, shouts for help, and a sound of desperate plunging, cut short the trooper's report; the King and the Chevaliers leaped from the sledge, and made for the spot with all speed,

but in vain; there was nothing to be seen except a chasm in the ice, and the human beings who had fallen, though warm with life but a few minutes before, were already drifting dead and cold beneath the frozen covering of the sea.

"Mon brave," said Charles to the trooper, "take these," throwing him a cloak and a flask; "keep a good watch to-night, to-morrow you shall hear from me."

Once more the word was "forward," and sledge after sledge swept by, while the stout soldier, taking a long pull at the flask, and wrapping his cloak around him, tramped back and forward on his dreary post with the wakeful eye and measured tread of a sentinel.

At six o'clock the Danish fires were seen by the Finnish cavalry in the van; the King mounted his horse, the files closed up, and an officer was sent to the rear to hasten the advance of the infantry. In half an hour the low outline of the shore was distinctly visible at the distance of half a league, and the enemy, opening a fire from three field-pieces to break up the ice, the vanguard halted to await the advance of the centre colomns. These, however, were still an hour's march in the rear, and the King's impatient temper, aggravated by the constant crashing of the ice in front, prompted him to change his plan of attack. An express was sent to Wrangel to push on with the cavalry of the right wing: Colonel Arensdorff, with part of the van, was ordered to manœuvre in his present position, so as to occupy the attention of the enemy, while Charles himself, with the remainder of the Finnish horse, made a détour upon the left. The movement of the troops in their front deceived the Danes; their fire redoubled and by the greater elevation of their guns, the balls, instead of passing clear through the ice, shattered it far and wide in every direction. A squadron of forty men incautiously approaching within range, a shot fell right among them, the ice cracked to an immense distance with a noise like thunder, and men and horses, flang into the yawning gulf, struggled fiercely with each other, until the crowd of living things, kicked, trampled, or suffocated into a helpless, writhing mass, sank heavily down beneath the waters. A shout from the Danes followed, but the triumph was short; scouts from either flank brought intelligence of the landing of the Swedes, and the Scottish officer in command, the veteran Major Henderson, immediately drew off his men, and fell back upon a farm-house and wind-mill, about half a mile in his rear. His troops, consisting of a few companies of regular infantry and some armed peasants, on being surrounded by the Swedes, gave up their arms as prisoners of war.

Daylight, the gray, cheerless dawn of winter, rose on a strange scene. Groups of dismounted troopers had gathered round the smouldering fires, each with the bridle on his arm, while the jaded horses stood behind, with drooping necks and dull eyes, as weary as the riders. The columns of infantry were just mounting the shore with slow but steady pace; the men, pale and haggard from cold and fatigue, marched or halted mechanically at the word of command: they neither spoke nor cheered, but as each company was dismissed, some made for the fires already burning, some tried to kindle others, while the greater part threw themselves down upon the ground overcome by an irresistible torpor. Far away, marking their advance, stretched a belt of sodden snow, its hue of reddish brown contrasting powerfully with the white surface it traversed on either side. Small parties of men dragging a field-piece or a tumbrel,

stragglers mounted or on foot, horses without riders, and broken sledges, were scattered over the waste, while here and there a dead soldier lay frozen as he slept in his passage through the ice-king's realms.

But what then? Let the dead lie stiff and stark upon the snow, or be tossed like drift-wood on the waves of the sea; the memory of their sufferings has long faded away, while the glorious passage of the ice, the renown of the conquering Swede, shall go down to remotest times. Hurrah! Funen is won! Denmark has lost another limb; and the Northern eagle stands, with outstretched neck and balanced wing, ready to make the last swoop on his noble prey!

[TO BE CONTINUED.]

THE ATMOSPHERIC RAIL-WAY CARRIAGES.

It is upwards of a year and a half since we described the experiments made by Mr. Clegg, in the borough, on the mode of propelling carriages by means of exhausting a pipe or tube with which the carriages were connected, and then admitting the atmospheric air, and, as it were, forcing the carriages and train along a rail or tram road.

These experiments were very successful—indeed, so successful, that few persons had any doubt about the ultimate success of the principle of the invention.

On Thursday, the experiments were exhibited on a large scale, on a rail-road which connects or is intended to connect, the line of the Birmingham, the Bristol, and the Thames junction lines, commencing within a short distance of Shepherd's Bush, and running in a westerly direction for about three quarters of a mile.

The carriage put in motion, with the persons on it, did not weigh much less than twelve tons, but it travelled with great ease at the rate of twenty-five miles an hour. The exhausting pipe or tube laid down which was not the propelling agent, but the means of its developement was about nine inches in diameter. The engine by which it was exhausted—namely a pump, worked by steam, rendered it fit for the operations required, in about two minutes and a half, and from the index, that is quick silver, employed at the termeni, it was ascertained that the operation was performed simultaneously at both ends of the line.

There was no noise, no smoke, and what is better, no danger of explosion, or of a power which could not be governed. In short, the experiment was as successful as its warmest well-wishers could expect, and showed that the agency of steam is not a *sine que non* on a rail road.

Without going into the minute history of rail-roads, it may be as well to say, that this power may be applied to any rail-road at a saving of about seventy per cent., and that it is of sufficient force to preclude the necessity of tunneling.—It is applicable to almost any gradients.

The experiments were attended by a great number of nobility, and by many scientific men. [*Glasgow Argus, June 18th*, 1840.

AGRICULTURAL ITEMS.

The Durham Cow "Blossom."—Observing in the Pennsylvania Inquirer a short time since, a statement of Mr. J. Gowen's celebrated cow *Dairy Maid's* yield of milk for one week, which he states "is unprecedented, being on an average rather over thirty-three and a half quarts per day," I concluded to try my cow *Blossom*, a statement of whose milking for one week you will find below, and by which you will perceive she averaged for the week over thirty-five quarts per day, and yielded thirteen pounds and a quarter, of well worked butter. Not having a spring-house we are obliged to keep our milk in a cellar, which at this season of the year every one acquainted with the process of butter making knows would be unfavorable for a large yield. My dairy maid is firm in the belief, that at a cooler season, or with a spring-house, the cream she had from Blossom for the week would have yielded fifteen or sixteen pounds of butter.

Uncommon as this produce may be, I do not consider it more so than the fact of her having never been dry since she had her first calf, more than two years ago and in the space of twenty five months has produced five living calves, viz. on the 5th of April, 1838, she had her first calf *(Delaware)* on the 4th of July, 1839, she had twins *(Liberty and Independence,)* and on the 16th of May, 1840, she had twins again *(Romeo and Juliet)* and I think I can safely say, that during the whole of that time she has averaged full twenty quarts per day with her first calf and made near twelve pounds of butter per week. * * * *

Very respectfully, SAMUEL CANBY.
Woodside, June 29th, 1840.

BLOSSOM'S YIELD OF MILK FOR ONE WEEK.

	Morn'g.	Noon.	Even'g.	Total. qts.	pt.
June 13.	12 qts.	11¼	11¼	34	1
" 14.	12¼	11¼	11	34	1
" 15.	12¼	11	11¼	35	
" 16.	12¼	12¼	11	36	
" 17.	12¼	11¾	11	35	
" 18.	13	12	11¼	36	1
" 19.	13¼	11¼	11	36	
		Total,		247	1

Being on an average over thirty-five quarts per day. *Delaware Journal.*

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To have Large Flowers on Spring Brocoli.—In the month of September, begin at one side of the Brocoli plot, and open a trench parallel to the planted row. Then take up the plants from that row, one by one with a good ball to each, and if it be very large let it be reduced, and the roots trimmed. Let some of the under leaves also be taken off, and then lay the plants carefully in the new trench. Dig in the earth, and close it well, treading it firmly round the roots. Let the same operation be performed with respect to as many rows as you wish to transplant into the trenches to be vacated, placing them in a sloping direction. If possible, let the plot originally be laid out to face the south. The plants by receiving this check, will stand the frost better, and have larger flowers in the spring.

Doyle's Practical Gardening.

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Irish mode of obtaining early Cauliflowers.—Take your knife in one hand, and the plant when full grown in the other, cut upwards in a sloping direction, about two inches from the ground, till the blade reaches the middle of the stem. Then put a small bit of chip in the slit, to prevent the parts from uniting again, and raise the earth above the cut, pressing it very tightly round the plant, and treading it firmly to protect it from being broken by the wind. You may also make it more secure by tying the plant to a firm stake, or, which is still better, you may tie a strong shred of bassmat round the wound, and thus secure the plant to a sufficient stake, which will make the raising of the earth unnecessary. By this method the plant will be ready for use seven or eight days sooner. Instead of lime, gypsum may be used with much better effect, not only in this, but in other garden operations. *Ibid.*

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New Mode of Destroying the Black Grub, or Cut Worm.—The destruction of crops by the cut-worm is incalculable in most parts of the United States, and countless remedies have been offered, but not one that strikes us more forcibly than the following, taken from a No. of the Genesee Farmer. The whole secret consists in turning up the ground with the plough during winter, so as to freeze the eggs. A correspondent of Judge Tucker says, "one of my neighbors wishing to try the experiment, broke up one of his fields, adjoining the field of another neighbor—the two fields being separated only by a worm fence—during warm spells in winter, when the ground ploughed during the day would freeze at night. The spring following he again broke up the ground and planted it in corn, but not a cut worm was to be seen the whole season; while his neighbor, who ridiculed the idea of breaking up ground in winter to prevent the cut-worm from destroying the corn, broke up his in the spring and planted it also in corn; but what was his surprise when he saw his field filled with cut-worms and his corn almost destroyed, while the adjoining field of his neighbor remained unmolested." The writer says, many experiments have been made and with universal good success.

The Agriculturist.

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Cough in Horses.—The Maine Farmer says, that the boughs of cedar have been used as a remedy for cough in horses with complete success. They should be cut fine and mixed with the grain given to the horse.

MISCELLANEOUS ITEMS.

Extraordinary Discovery.—A late Paris paper says that a very humble individual has found means of fixing the electric spark for public lighting, and that he can produce a permanent flame of 30 inches in diameter, which would light a great part of Paris. The only danger attending it is said to be in the apparatus of supply, which must be isolated, and it is so strongly charged that a person touching it would be struck dead immediately.

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Present to Prince Albert.—His Royal Highness Prince Albert has lately received a present of a very singular and beautiful description. It consists of a small glass beehive, filled with delicately white combs, so curiously wrought, and stored so fully with the purest crystal honey, as to excite admiration and astonishment. It is a natural curiosity in its kind, perhaps never before met with. The combs, which are of a very unusual thickness, being worked so curiously together, in some parts circular, others perpendicular, and in other parts even in a horizontal direction, and whilst occupying all the available space within the glass shade, with here and there a waxed pillar thrown out to support the weight of the sweet treasure contained, it still preserves and presents a uniform and very elegant appearance. This singular glass of honey was worked in the apiary of Mr. I. Bathem, a gentleman residing near Kidderminster, by whom it was presented to his Royal Highness. The illustrious Prince was much pleased with this specimen of insect ingenuity.—*Worcester Chronicle.*

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The Daguerreotype.—Daguerre announces a new improvement in his great invention. He thinks he can now take his pictures *instantaneously*, by which means he will be enabled to paint *moving* as well as stationary figures on his plates.

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Power of Electricity.—A salad of mustard or water cress, may be produced in a few minutes, by the assistance of electricity. The process is to immerse the seed for a few days previously, in diluted oxymuriatic acid, then sow it in a very light soil, letting it be covered with a metallic cover, and then bring it in contact with the electric machine. By the agents employed in this process, eggs, which require from nineteen to twenty days application of animal heat to hatch them—may be batched in a few hours. Rain water, apparently free from any noxious animalculæ, in an hour may be rendered full of insects.

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Leaving it to the Lord.—The following singular, but well authenticated story, was copied by the Editor of the Hartford Observer from the old family Bible, belonging to Judge Griswold, of Lyme, Conn. "Lyme was first bounded east on the Nihantic Indian land, and New London, on Nihantic bay four miles in width, lay between the towns belonging to neither. A petition was made to the Legislature to have it divided equally to each town stating it to be two miles. The petition was granted. The parties met to make the division, but could not agree—each claimed that the other should have one mile, and itself the remaining three miles. After some heat, they agreed to leave it to the Lord; and to put an end to the controversy, that each town should choose two champions, who should meet on the contested lands and box it out, and the party to which the Lord should give the victory, should divide the lands, and the other party should be bound. New London choose a Mr. Hempstead, and a Mr. Chapman, and Lyme Mr. Griswold and Mr. Ely. They met, and Lyme in both cases gained the victory, and the land was divided accordingly."

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Pedestrianism Extraordinary.—A most extraordinary feat of pedestrianism has been nearly completed by the celebrated Townshend, walking between this town and Prescot. This individual undertook for a bet of £50, to walk against time, the astonishing number of sixty-four miles each day, for six successive days. This great feat would almost seem impossible; but up to last night, he had regularly performed his day's task, with the exception of one day, in consequence of the Prescott police having taken him twice in custody, which retarded his progress considerably. On the following day, however, he made up for the loss he had sustained from the over caution of the "rural force," by walking seventy-two miles; and when it is considered that this took place on the third day after he had started, it cannot be looked upon otherwise than wonderful.

In performing the given distance, he has to walk four times every day between the two places. As soon as he makes his appearance within the suburbs of Liverpool, he is constantly followed by great crowds (of whom he much complains) of anxious spectators, eager to look for once upon a man whose performance, when completed, will be one of the greatest feats of walking ever accomplished.

Mr. Townshend finishes his arduous task this evening; he will be in this town about 9 o'clock in the morning, half-past 1 in the afternoon, and 6 in the evening; he will then proceed for the last time to Prescot, and return to Liverpool at about half-past 10, which will complete this feat unparalleled in the history of pedestrianism.

Last night, when he arrived at Mr. Taylor's, Williamson-square, (at which house he has regularly slept, about five hours out of every twenty-four, going to bed at 12, and rising again at five,) he complained very much of his feet being sore, but his spirits seemed as buoyant as they were on the first day, (Monday.)—*Liverpool paper.*